DE GRUYTER

C. W. Spinks

PEIRCE AND TRIADOMANIA

APPROACHES TO SEMIOTICS [AS]

Peirce and Triadomania

Approaches to Semiotics

103

Editorial Committee

Thomas A. Sebeok
Roland Posner
Alain Rey

Mouton de Gruyter
Berlin · New York

Peirce and Triadomania

A Walk in the Semiotic Wilderness

by
C. W. Spinks

Mouton de Gruyter
Berlin · New York 1991

Mouton de Gruyter (formerly Mouton, The Hague)
is a Division of Walter de Gruyter & Co., Berlin.

∞ Printed on acid-free paper which falls within the guidelines of the ANSI to ensure permanence and durability.

Library of Congress Cataloging in Publication Data

Spinks, C. W., 1942–.
Peirce and triadomania ; a walk in the semiotic wilderness / by C. W. Spinks.
p. cm. – (Approaches to semiotics ; 103)
Includes bibliographical references and indexes.
ISBN 3-11-012633-8
1. Peirce, Charles S. (Charles Sanders), 1839–1914. I. Title. II. Series.
B945.P44S75 1991
121'.68–dc20 91-35718
CIP

Die Deutsche Bibliothek – Cataloging in Publication Data

Spinks, C. W.:
Peirce and triadomania : a walk in the semiotic wilderness / by C. W. Spinks. – Berlin ; New York : Mouton de Gruyter, 1991
(Approaches to semiotics ; 103)
ISBN 3-11-012633-8
NE: GT

© Copyright 1991 by Walter de Gruyter & Co., D-1000 Berlin 30
All rights reserved, including those of translation into foreign languages. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher.
Printing: Ratzlow Druck, Berlin. – Binding: Lüderitz & Bauer GmbH, Berlin.
Printed in Germany.

Preface

Thinkers as diverse as Ilya Prigogine and Noam Chomsky have affirmed Charles Sanders Peirce as a forerunner of their thinking, and at the end of the twentieth century, Peirce is increasingly recognized as the most complete and profound articulator of semiotic theory. He has long been recognized as one of the most original thinkers in America, but as the vast body of his writing becomes available from the Peirce Edition Project, it is likely that Peirce's true range and genius will become increasingly known at home and abroad. Certainly he was a "polymath" as is claimed, but I suspect he is more than simply "a person of great or varied learning". In many ways Peirce is, of course, a thinker of the late nineteenth century: a persistent pragmaticist, a sometime transcendentalist, an evolutionist, a philosopher of science and logic, etc., but his semiotic insights seem to look deeply into a future that has become our less than certain present. As we grow in non-linear understandings of the world, his fundamental belief in the understandability of the sign process and the world, his trust (one might say in post-modern fashion, his faith) in the reliability of human knowing systems, his insistence upon the possibility of logical discourse, his refusal to accept simple-minded positivism, and his compulsion to articulate the discovery of ideas, all combine to make Peirce a voice which speaks to our own times.

This study is an outgrowth of a deep respect for Peirce's thinking and a desire to understand him as fully as a non-polymath can. It seeks to explore Peirce's Semeiotic, as he called it, and to articulate how deeply his own tri-relative logic pervades his thinking. As Peirce wrote in his third letter in the Welby correspondence, "You may remark that not only do triads turn up in abundance in all sorts of *true* doctrines, but they are even more abundant in *false* ones, so that we must always suspect a triad to be of subjective provenance until it can show positive credentials" (Hardwick 1977:9). I am sure this study is marred by "subjective provenance", but though I would not claim it a "true doctrine", I have tried not to make it a "false one". It is, in Peircean fashion, an attempt to open the path of inquiry and not to block it, and it seeks to establish "positive credentials" for the triads used. But more importantly, in my own fashion, I have tried not to deface the trail markers Peirce left, but to frame them for future travellers so the walk in the semiotic wilderness can be as profitable and as enjoyable as wanted.

However, it is quite possible that my focus on triadomania, Peirce's half-ironic "disease of seeing threes" in everything, contains some fatal subjective flaw since I am not as systematic as Peirce and those who pursue any mania in our post-rationalistic society run the risk of enthroning irrationality. Still, this study does not seek irrationality; rather it tries to extend Peirce's thinking as far as it will go in order to discover the very edges of discovery. I am sure I run the risk of unweaving the semiotic web at some level, but I was never fond of the three weaver sisters anyway even if they are a reminder of human limitations. Nor am I enamored of that Greek transformation of tragedy into logic that Paul Ricoeur (1967:329) argues. Surely limitations and demarcations are a part of human heritage, but Peirce was not overly impressed with demarcation and limitation. Rather he found pleasure and insight in continuity and infinity. Both of those are concepts which stretch the fabric of my mind, but somewhere in the semiotic wilderness where Peirce blazed the trail, I have hopes that I may too leave a marker of sorts—a marker that says, "Go on. The land lays luscious, the air sparkles, and the waters are sweet. Go on."

I owe many people thanks for this study: colleagues and family who continued to support and endure me, my university for its support in travel and research, fellow semiotic scholars who have listened, critiqued, and encouraged my work. Specifically I would like to mention Richard Tursman and Joseph Esposito who read drafts of this and tried to sharpen my logical thinking. I would also like to thank Dinda Gorlee and Lucia Braga who encouraged me in pursuing this study, and I would like to thank Thomas Sebeok for recommending it for publication. I also particularly wish to thank Harvard University Library for permission to quote extensively from the *Collected Papers of C. S. Peirce* (edited by Hartshorne, Weiss, and Burks) and the Peircean manuscripts. Without the continued attention of the Harvard Library, much of what Peirce discovered would have been lost.

In quoting Peirce I have followed the convention of the field, and referred to the *Collected Papers* by volume and paragraph numbers, as in v.nnn, and I have referred to the manuscripts by manuscript number and page as in MS nos.nnn following the convention of Robin's *Annotated Catalogue of Charles S. Peirce.* Also, it will be obvious that I have quoted other sources, but generally I have done so under the doctrine of fair-use as scrupulously as I could and tried to keep scholarly references, other than to Peirce, at a minimum. Still, the multitude of scholars working in Peirce throughout the world form

what Peirce called a Community of Inquirers, and this study owes as much to them as anyone. In the spirit of Peirce, it is one of the most collegial group of scholars I have known, and I hope this study does credit to their company.

July, 1991
San Antonio, Texas, USA

C. W. Spinks

Table of Contents

Chapter One: Triadomany defined
1.1. Arguments against triadomania 1
1.2. How far can trichotomies be extended? 6
1.3. Peirce's search for thirdness 7
1.4. What fork is this? 9

Chapter Two: Triadomany explored
2.1. Categorical thinking 17
2.2. Prescission and precision 19
2.3. Zeroness 23
2.4. Firstness 27
2.4.1. The first absolute boundary 29
2.5. Secondness 31
2.5.1. The role of degeneracy 35
2.5.2. The second absolute boundary 37
2.6. Thirdness 38
2.6.1. The central boundary 41
2.7. The problem with boundaries: can they be trichotomized? 45
2.8. Evolution and the categories as a trichotomizing schema .. 47

Chapter Three: Triadomany ensigned: The types of signs
3.1. Peirce's first trichotomy: signs in relation to themselves .. 54
3.1.1. Qualisign: (Se) 54
3.1.2. Sinsign: (Sp) 57
3.1.3. Legisign: (Si) 59
3.2. Peirce's second trichotomy: signs in relations to their objects 60
3.2.1. Icon: (Sng) 61
3.2.2. Index: (Sa) 64
3.2.3. Symbol: (Sd) 68
3.3. Peirce's third trichotomy: signs in relation to their interpretants 74
3.3.1. Rheme: (Sl) 75
3.3.2. Proposition: (Sh) 79
3.3.3. Argument: (Sf) 85
3.4. Typology into classification 91

Chapter Four: Triadomany extended: The classes of signs
4.1. Peirce and the trichotomy of trichotomies 93
4.1.1. The tri-square: A surveyor's thinking 95
4.1.2. Trichotomous quarrels 103
4.2. Peirce's ten classes of sign 111
4.2.1. The qualisign as class 117
4.2.2. The sinsign as class 118
4.2.3. The legisign as class 119
4.2.4. The icon as class 119
4.2.5. The index as class 121
4.2.6. The symbol as class 122
4.2.7. The rheme as class 123
4.2.8. The proposition as class 123
4.2.9. The argument as class 124
4.3. The rhematic indexical legisign as central sign 128
4.4. Terminology and the classes of signs 130

Chapter Five: Triadomany enhanced: A cubed tri-square
5.1. A tri-square of interpretants 133
5.1.1. Tracing a tri-square 134
5.1.2. A tri-square of objects 141
5.1.3. The configurations of tri-squares 144
5.2. The tri-square cubed 146
5.2.1. Trichotomous division and the cubed tri-square ... 148
5.2.2. Sign flow as vectors 151
5.2.3. The degrees of degeneracy 152
5.2.5. The reversed sign 157
5.3. Entry points and permutations 161

Chapter Six: Triadomany embraced:
The role of interpreters, interpretants, and interpretance
6.1. The prescission from interpreter to the interpretant 169
6.1.1. The problems with interpreters 170
6.2. Interpretance as an act of conscission 174
6.3. The replicating interpretant 176
6.4. The types of interpretants 177
6.5. Interpretance of the first trichotomy 179
6.5.1. The emotional interpretant 179
6.5.2. The energetic interpretant 180

6.5.3. The logical interpretant 181
6.6. Interpretance of the third trichotomy 185
6.6.1. The fracture of objects and the shared interpretant 185
6.6.2. Three different interpretants 186
6.6.3. The logical emphasis in interpretants 187
6.6.4. The Rules of interpretance 190
6.7. Interpretance of the second trichotomy 195
6.7.1. The boundaries of the semeiotic 198
6.8. Interpretance and firstness 200
6.9. The interpretance of interpretance 203

Appendix:
The vectors of sign flows 204
Notes 229
Bibliography 244
Index of Names 249
Index of Subjects 250

Chapter One

Triadomany defined

> You shall bind them in Three Classes; according to their Classes.
> William Blake, *Milton*

In a 1910 manuscript of *The Quest for Quest—An Inquiry into the Conditions of the Success in Inquiry*, Charles Sanders Peirce offered as preface an "Author's Response to the anticipated suspicion that he attaches a superstitious or fanciful importance to the number THREE, and forces Divisions to a Procrustean Bed of TRICHOTOMY" (MS 902:2). There he speculates about a disease called "Triadomany" and gives arguments for his being not "so afflicted". Although the preface seems somewhat tongue in cheek[1] and the manuscript is incomplete,[2] Peirce admits he has "a large number of trichotomies" but indicates that he will seek to "convince those who are open to conviction, that ... a thorough student of this book should be lead to make trichotomies" (1.568). He argues that "the nature of the science [of inquiry] is such that not only is it to be expected that it should involve real trichotomies, but furthermore that there is a cause that tends to give this form even to faulty divisions" (1.568).

1.1. Arguments against triadomania

Peirce's apologia is based on three arguments: one, that he had used other types of structures in other areas; two, that the problem of scientific classifications, in general, is a problematic one; and three, that logically, one has to understand that there is a difference between mathematical reasoning and other types of reasoning. His first argument deals with the proportion of his classifications that were trichotomies, and in the draft versions of the manuscript he gives two sets of figures. First, he reckons that out of twenty-nine divisions only five were trichotomies (1.569), and then in an alternate version he asserts that, except for his theory of signs, only "one in every fourteen" of his classifications have been triadic and that "Nearly half of them ... have been dichotomies" (MS 902:32). Finally despite

such differences in counting, Peirce uses both sets of calculations to establish that he has "no marked predilection for trichotomies" (1.569) even if he owns being "much given to making new classifications and divisions" (MS 902:32). His argument here is succinct and straight forward: if he had a "marked predilection for trichotomies", he would have been much more Draconian in his consistency of using the triadic classification.

His second argument, because it is scientifically technical, is less personal and more substantive since the problematic of classification goes to the heart of inquiry and is more germane to the types of classification used. It questions the validity of naturalists' classificatory systems, since

> there is a world of difference between divisions that one recognizes in classes whose essence one can comprehend, and the varieties that one observes from the outside, ... without being able to guess why they should be such as they seem to be, nor, except in the higher division, being at all sure that we have the full list of parts, nor, whether they result from a single division or from several, one succeeding another. (1.570)

Although Peirce qualifies his expertise in biological classification, he is concerned here with a process of classification that can be used on "the marvelous multiplicity" of things in the world—particularly since the classification of objects in the world is one which we are never sure whether "we have a full list of the parts" or whether our classifications result from one division or several. As examples, Peirce offers critiques of both Louis Agassiz's and Thomas Huxley's classifications. He argues that Agassiz's system forces classifiers "to say what the idea of the Creator was" (1.571), and although he had trained under Agassiz and respected him, he recognizes that such classification systems are bound to fail. This is evidenced by the success of evolutionary classification schemes, but Peirce points out that these types of systems are more genealogies than logical classifications. And with astute critical judgment illustrated by morphological examples, he argues that Huxley's system essentially uses dichotomies that are the logical result of axiomatic distinctions between genus and natural species (MS 902:21).

Peirce wants to make it clear that the problem of natural classification is a problem of the difference between "the genealogy of

species" and logical division. Apparently the origin of things may or may not be related to their logical division, but the question of origins contains the seed of purpose and intent, and with pre-existent natural things, the seed tends to bloom into teleological flowers like those of Agassiz. So he explains the problematic of logical division and classification by setting out "to work to classify the things that one most entirely comprehends" (MS 902:11), artificial things. First he limits "things" to its narrowest sense of "only dead material objects", and then excluding complex sign operations (like laws, fashions, styles, institutions, works of literature, and such), he warns that he is not proposing just a

> problem of actually classifying artificial things; for that is by far too difficult a matter to serve for an illustration throwing light upon anything else. Besides, when we undertake to classify any such large and various a group, though we may make a few successive divisions, we cannot carry them far before the essential qualities of the different groups begin to mingle in a manner which is very perplexing. (MS 902:12-13)

Rather he limits the class of artificials by suggesting that its objects should first be divided "according to their purposes". So the first class is those objects which "are not made purposely" such as slag heaps or rubbish piles. This, of course, suggests a second class of objects which "directly minister to our primary needs or desire", and that in turn suggests a third class of objects "which directly enables us to achieve results". He then examines a possible fourth class of objects which "frustrate the desires of their creators", but rejects it because logically "nothing would ever be made purposely and yet merely to frustrate even purpose concerned with its making". Thus he argues that one is forced to recognize a trichotomy here because "The impossibility or other nullity of one member of a fourfold division is one of the more usual arguments by which trichotomies are brought to recognition" (MS 902:15-17).

For Peirce, the issue of classification is how one divides a continuum with a logical consistency that will not, one the one hand, become lost in the overload of a "marvelous multiplicity" of data, nor on the other hand, create categories which are essentially null categories arising only from the original principle of division. Any "division" of the stuff[3] contains not only those parts specified, but it also

contains unknown and unlisted parts as well as the generation of other possible divisions. Furthermore he suggests that "the concept of a branch is so simple that a mind imbued with all the ways of nature ought to be able with some approach to certainty to enumerate by anticipation all the general focus under which it would get realized" (MS 902:22). Since in Peirce's mind the concept of branching is by its very nature trichotomic—involving as it does not just a fork splitting one into two, but a juncture point of three separate items; his argument, therefore, demonstrates an implicit and logically necessary trichotomy. Not only is there, first of all, a class and its members divided out of a totality by principle or rule; but secondly there is, consequently, a non-class, and its members can be separated out by the same principle or rule. But moreover, there is, thirdly, a continuum, as well, which is the dividing point between class, non-class, and the surrounding stuff. Thus, by focusing on the process of classification, Peirce makes it clear that there is no need to be concerned with the "ideas the Creator had" except in the sense that a logical operation is to be applied to a "marvelous multiplicity"; rather one can, as a matter of fact, talk quiet sensibly about the logical rule of that division as a trichotomous structure.

However, Peirce's third argument seems an even stranger one, for after a second recounting of his divisions, he speculates that the reader may still think him afflicted with "triadomania" much in the same way as "circle-squarers" or "perpetual motion inventors" who pester mathematicians and engineers. So he challenges the reader, whether he can cross the Ass's Bridge or not,[4] to "tussle" it out with him. He then offers a test question to illustrate the logical problem with classification, and invites the Reader who is attentive and not too slow to solve the puzzle. The passage is as follows:

TEST QUESTION

> Would the truth of the *Consequent* of the following consequence ["consequence" being the assertion that should a given antecedent be true, a given consequent will inevitably be true] follow in case the *antecedent* were true, and if not, what is the least assertion to the antecedent that would make it so?
>
> *Antecedent:* Every Hottentot kills a Hottentot, but no Hottentot is killed by two different Hottentots.
>
> *Consequent:* Every Hottentot is killed by a Hottentot. (MS 902:39)

Then in case the reader possesses "worse than a somewhat sluggish attention", Peirce offers a simpler, clearer variant of the puzzle by saying, "In a given instance every Hottentot is being spied upon by some Hottentot, though no Hottentot is spying upon two different Hottentots." So he asks, "Does it necessarily follow that every Hottentot is, at that instant, spying upon some Hottentot? Or if not under what circumstance would it follow" (MS 902:40-41)? Yet Peirce impishly does not answer his own questions; rather he suggests that since he has given the Reader such a "broad hint", those who have difficulty might find the answer in a number of specific logicians, which Peirce then lists with short summary critiques.

This third argument is notably a didactic "tussle", but Peirce is quite correct is saying he has given a "broad hint", particularly with the substitution of "spying at that instant" for "not being killed by two different Hottentots". Like the ancient problem of the Cretean Liar, these test questions are problematic because of self-reflexivity, which is exactly the problem with the boundaries of epistemological classification Peirce has been discussing, either as evolutionary or semiotic classifications. So in the first variation, one Hottentot must be left unless one allows suicide as an escape clause, and in the second, how does a remnant of one Hottentot spy upon himself except by using a mirror and violating the antecedent? These kinds of arguments are, of course, familiar to the twentieth century as Russelean categories, but they are not the simple logical conundra that philosophy students often take them to be. Their paradoxical nature is fundamental to the problematic of classification whether one takes the Godelian out or tries to settle the issue, but for Peirce they are evidence that when one is epistemologically uncertain, as we always are except in circular categorization, there will be a trichotomic division to any classification, because of the nature of nature or because of the nature of signing.

Peirce's tone is somewhat jovial in this incomplete preface, but it is obvious that he is not being just whimsical. He is, after all, a student of the "logic of relatives", and the issues in the problem of classification of the "multiplicity" and the divisions of continuum are exactly the kind of issues that a logician must confront: issues of boundary, continua, and self-reflexivity in epistemological searches. Classifications, particularly those which are potentiality infinite in membership, create a self-reflexive buzz for the classifier. Also, Peirce, in his development of his semeiotic, is not the kind of student

who tends toward "faulty divisions ... thirsting for thoroughness and full of anxiety lest he omit any branch of his subject" (1.568). Rather he is a thorough student of the semeiotic who details an essential structure for comprehending both the logic of relatives and the nature of classification: the triadic structure of the sign, which is a "tri-relative influence not being in any way resolvable into actions between pairs" (5.484).[5]

1.2. How far can trichotomies be extended?

I too have developed trichotomic models, as shown in Figure 1, but I have cast them as three-dimensional models of the processes of sign production, sign exchange, and implicit dyadic relations in semiosis (Spinks 1981 and 1991). Building on Peirce's trichotomic relation of

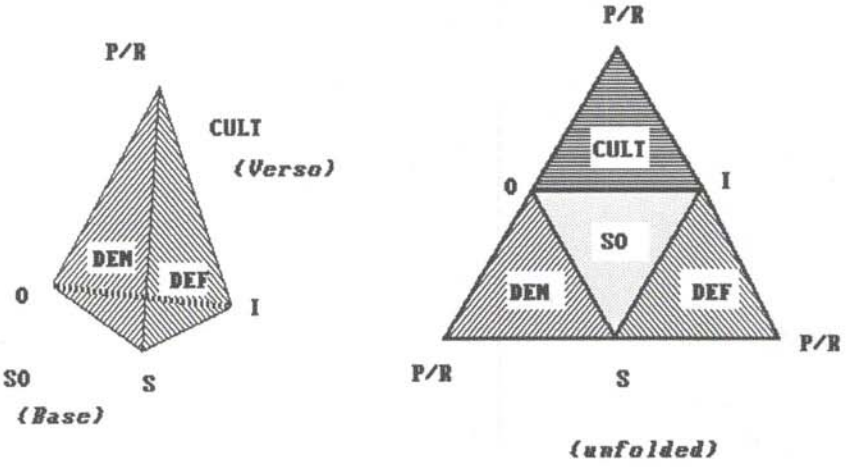

Figure 1. A semiotic Pyramid

Sign, Object, and Interpretant as a Sign Occurrence Plane, I extended this triad into pyramidal models to represent the sign universes of Sign Users, with the pyramid's upper faces being the Definition, Denota-

tion, and Culture planes of stipulation (sign, interpretant, and producer), reference (sign, object, and producer), and taxonomy (object, interpretant, and producer). These models have proven to be quite productive in examining a number of the relations in semiosis,[6] and in them, I have tried to follow Peirce closely in his use of the "tri-relative influence", but having neither his "thoroughness" nor his freedom from anxiety, I have repeatedly had to ask myself if I was suffering from "Triadomany".

The triadic structure is, I believe, as "fertile" as Peirce thought, but I also realize that the investment of ones's own "discoveries" carries its own type of fertility. Thus, I think it only fair to examine the role of trichotomous division in the Semeiotic and my attempts to model it. The extension of the signific triad into three dimensions certainly complicates Peirce and yields a host of potential observations about sign usage, yet a central question has to be whether those pyramidal structures lead to comprehension, or simply to a series of incomplete parts "one succeeding another". I do think the triadic structure is essential, but are the dimensional additions of pyramidal models necessary? As with Peirce's own constructs or any process of iconic discovery, I expect the proof lies in their pragmatic success in pointing out how varieties of sign may have an "essence" in common, in helping to identify the "list of parts", or in demonstrating why and how signs function as they do. I am not specifically going to explore those pyramidal structures since I have done so elsewhere, but despite their utility, my fascination with them has caused me to wonder about my won suffering from triadomania. So it seems that the only recourse is to explore triadomania more fully to see if Peirce had the disease and if my pyramidal models are symptomatic of the disease. Perhaps, if the trichotomous structures are carried to the limits of their collapse or success, then one may be able to determine whether they are an essential structure or just a "faulty division", and whether they are just a "Procrustean bed of trichotomy" or some development of the "tri-relative influence".

1.3. Peirce's search for thirdness

For Peirce the triadic nature of things is fundamental even if the majority of his twenty-nine divisions are other than trichotomous. As

Peirce admits, a casual reading of his work will indicate just how extensively he uses the trichotomous structure to develop his arguments and ideas. The fact is that he argues, in "Trichotomic Mathematics", that "the most fundamental aspect about the number three is its generative potency" (4.309), and describes its effect this way:

> It would scarcely be an exaggeration to say that the whole of mathematics is enwrapped in these trichotomic graphs; and they will be found extremely pertinent to logic. So prolific is the triad in forms that one may easily conceive that all the variety and multiplicity of the universe springs from it.... (4.310)

One can hardly give greater praise to triads, but Peirce does not exaggerate in this praise. Trichotomic mathematics is closely related to the issues of logic (4.323), and as he eventually demonstrated logic and semeiotic are fundamentally the same.

For Peirce, there is always a trinity—of either sign, object, and interpretant; first, second, and third; or Father, Son, and Holy Ghost—at work in the scheme of things, for as he says of the law of symbols:

> therefore, we have divine trinity of object, interpretant, and ground.... In many respects this trinity agrees with the Christian trinity; indeed I am not aware that there are any points of disagreement. The interpretant is evidently the Divine Logos or word; and if our former guess [see 7.590] that reference to an interpretant is Paternity be right, this would also be the *Son of God.* The ground being that, partaking of which is requisite to any communication with the Symbol, corresponds in its function to the Holy Spirit. (MS 359)

He apparently believes that it is the case that all is triadic, for "beyond the three elements of Firstness, Secondness, and Thirdness, there is nothing to be found in the phenomenon" (1.347)—at least for signifying intellects. Moreover, the qualification here, in terms of the classifying intellect and not the objects of classification, is essentially Peircean. As much of the semeiotic is to establish, the difference between classifier and classification is more apparent than real, for given the nature of both the God-Sign in Peirce's evolutionary love and the Man-Sign in growth, the distinction is moot since the

phenomenological world that we know is one that we know by signs.

1.4. What fork is this?

But searching through the phenomena is not an easy task, for some of the most difficult accounts of the tri-relative influence are in Peirce's work on phenomenology which uses graphing techniques for the triadic relations as assertions about the phenomena. As Kenneth Ketner (1986) has shown, there is much confusion over the proper representation of the triadic relation. For example, there is the scholarly cliche that Peirce was the originator of the triangular diagram of sign relation made famous by Ogden and Richards (1923:11), but Peirce does not portray the sign relation with that specific triangle. Moreover in a conceptual and logical sense, scholars of Peirce, as Ketner points out, "have often lamented that there seems to be no place in the extant papers where he wrote out the proof he claimed to have that tetrads or higher order relations could be reduced to combinations of triads" (1986:376) even though he often alluded to such a proof. Ketner believes this absence is a result of, first, the publishing history of Peirce's ideas, and secondly, scholars looking for an algebraic proof when Peirce, the diagrammatic thinker, had done his proof in the visual mode of the Existential Graphs and Valency Analysis.

Ketner uses a topological manuscript (MS 482) to argue that Peirce's cenopythagoreanism, as a doctrine of classification, is essential to understanding the formation of Peirce's categories, the semeiotic, and his classification of the sciences. He stresses that Valency Analysis and the Existential Graphs represent the triadic relations with the triple fork that Peirce had developed in the "Notation for the Logic of Relatives" (3.66) as meaning "is" in a phrase like "*f*—<*m*". But that notion of the icon, "—<", is the triple fork of Peirce's "Trichotomic Mathematics" which described it as:

> So prolific is the triad in forms that one may easily conceive that all the variety and multiplicity of the universe springs from it, through each of the thousand corpuscles of which an atom of hydrogen consists be as multiple as all the telescopic heavens, and though our heavens be but such a corpuscle which goes with a thousand others to make an atom of hydrogen of a single molecule

> of a single cell of a being gazing through a telescope to a heaven as stupendous to him as ours to us. All that springs from the —< [Peirce actually portrays this sign on the vertical axis]—an emblem of fertility in comparison with which the holy phallus of religion's youth is a poor stick indeed. (4.310)

Kenneth Ketner is, to my knowledge, literally correct in his contention that although Peirce used triadic relations, he did not use a signific triangle of representamen, object, or interpretant rendered either as the imputed relations[7] triangle of Ogden and Richards or as my Sign Occurrence Plane. It is also true that despite the obvious influence of Peirce, Ogden and Richards's analysis tends to reduce the signific triad to a set of dyadic relations, and they seem unaware of Peirce's contention that triads were irreducible or that ordering higher than triads must be reduced to triads.

However, I am not sure his contention that such a representation "portrays a triadic relation as composed EXCLUSIVELY OF DYADS" (1986:388) is quite so correct. Although it is true that Peirce tended to graph the triadic relation as a fork composed of three lines gathered at a central juncture, it is, nevertheless, also true that in both the "Division of Signs" and in a Letter to Welby, he diagrammatically portrays his classes of signs with triangular diagrams, albeit more complex than is typically rendered by those who use the signific triangle. As Peirce describes his triangular model to Lady Welby, "the number [placed in a triangle] above to the left describes the Object of the Sign. That above to the right describes its Interpretant. That below describes the Sign itself" (8.376). So it is clear that Peirce considered the triangular form as a possible diagram for the three sign relations.

Moreover, it is obvious from the atomic example used in "Trichotomic Mathematics" that Peirce is also concerned with both scale and perspective in his rendering of the triple fork. The triadic structure, if it is that from which "all the variety and multiplicity of the universe springs", is then both microscopic and macroscopic and applicable to both actual and possible worlds. Also his repeated insistence on proofs that all tetradic multiples could be reduced to three as a structure suggests an equal concern for both logical and conceptual scale that could be understood as triadic relations. Finally, Peirce's religious allusion surely suggests the rather archetypal significance that usually identified with the triple fork (although how

ironic Peirce is here is anybody's guess) as an example of the Trinity, for in general, the triple fork icon is clearly archetypal. Its skeletal arrangement of component parts portray a relation that transcends the mere number of its parts, and as such it can be used to model the tri-relative influence of the sign—if one is careful to avoid collapse into dyadic relations.

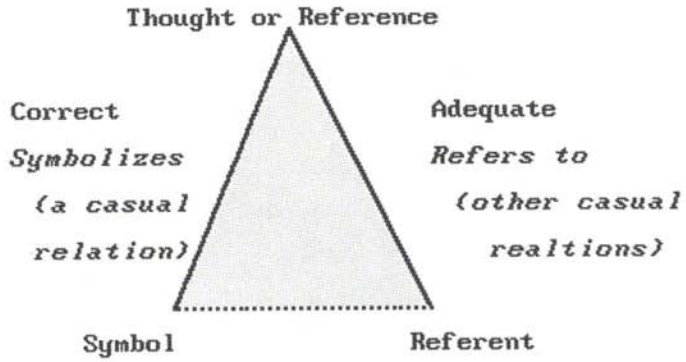

Figure 2. Ogden and Richards' signific triangle

Still, I think that Ketner's concern is probably necessary since the imputed-relations triangle of Ogden and Richards has proved more troublesome than helpful, because they were too concerned with dyadic relations. Their dotted line, in Figure 2, seems to push consideration of the sign more toward a narrower concept of reference than to the broader one of substitution. Also, it fails to give sufficient emphasis to the tripartite concepts of the stoics and scholastics that Peirce used in his Semiotic, rather it seems to operate as though the sign were "exclusively dyadic". Moreover, Peirce, in using the triple fork, was straining to avoid some of the pitfalls of terminology

that have plagued sign theory—the primary one being, as Peirce's stipulation suggests, to resolve triadic relations into dyadic ones, and as I have argued elsewhere (1991) the dyadic mode can easily confuse what the function of semiosis is. Its emphasis on reference confuses the more important interpretant function in the Sign and directs attention from the semiotic network toward some external authentication.

However, I do think Ketner is misdirected in attributing such a characteristic to the triangle *per se*, for there are three ways in which dyadicism can be triadically complicated by triangular geometric figures. First, the implicit trigonometric relations, used by surveyors

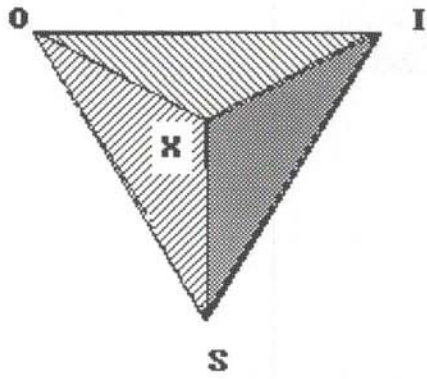

Figure 3. The signific pyramid (from above)

and geometers alike, clearly show how triadic the triangle's relations are, and for Peirce the surveyor those kinds of relations would be axiomatic. Second, as Peirce's allusion to the *pons asinorum* suggests, the history of the triangle has fueled much of the development of mathematical thinking into logical thinking, for out of geometry rises

the methodological importance of diagrammatic thinking, both for intellectual culture and Peirce.[8] Third, given Peirce's emphasis on geometry in diagrammatic thinking, it is obvious that the Peircean fork could easily be the apex of a triangular pyramid, as shown in Figure 3; that is, looking down on my pyramidal models from above, one sees a view suggested by Peirce's use of perspective, dimension, and scale, and in such a pattern, it is obvious that the X of the fork, or branch, forms sub-triangles with the three other relations; such a three dimensional operation tends to over-ride any dyadic quality of the imputed triangle. Fourth, it is obvious that Peirce's Existential Graphs or his Valency Graphs are set up as two dimensional diagrams, which has generally been the nature of logical diagrams I suspect because of the limitations of graphic and print media. But obviously, electronic technologies can provide three dimensional operations which can graph the additional dimension(s) without the necessary and somewhat transparent abstractions that exit in a two dimensional media. Moreover, relations, dyadic or triadic, are surely not confined to two dimensions, and any interest in topology will extend the triadic relation into more than two dimensions.

I would argue that by extending the tri-relative influence through three dimensions one extends the capacities of any internalized dyadic relations and that the triangle is no more composed of dyadic relations than a circle is just a line "returning to itself"—the example Peirce always used for representing the continuum. As Peirce continually stresses, the tri-relative influence is one which transcends space and time. Granted there are algebraic and symbolic conventions of representation in logic which Peirce is trying to overturn here. Yet the fact that he continually stresses the indissolubility of triadic relations, the fact that the Graphs are two dimensional representations of at least triadic dimensions, and the fact that Peirce himself uses triangular models in both the draft to Lady Welby and "The Division of Signs", certainly argues that the triangular structure is fundamental to Peirce's thinking whether it portrayed as a fork or a triangle.

Still, even if one accepted the pattern of the Ogden/Richards triangle or Ketner's contention that the triangle is composed exclusively of dyads,[9] Buckminster Fuller's synergistic definition of the triangle would make more sense than their "imputed reference" shown by a dotted line, for his synergistic triangle is both as symbolic and physical as Peirce's triadic relation and is as topologically sensitive as the Valency Graphs.[10] For Fuller, the triangle is, in reality, what

he calls a *Z Cobra*; that is, an energy event of action, reaction, and result which is represented as a very flat spiral because, by Euclidian definitions, two lines cannot go through the same point at the same time and "triangles cannot be structured into planes" (Fuller 1975:4). He then defines two Z Cobras, in positive and negative modes, joining to form the basic tetrahedral system, which "has the greatest resistance of any structure to externally applied concentrated load [and] ... is the only system that can turn itself inside out" (1975:332f). Fuller's synergistic view, defined as "behavior of integral, aggregate, whole systems unpredicted by the behaviors of any of their components" (1975:3), argues that "All polygons are reducible to triangles and are not further reducible" (1975:140). Moreover, he stresses that triangulation, or "triangling" as he phrases it, is "twice as efficient as squaring" (1975:602) and more characteristic of systems or structures which are both stable and capable of regeneration. Thus, since the Peircean fork is a joining of three different types of categorical relations, the synergistic joining of the three may be only a two dimensional view of the top of two Z cobra joinings, which although possibly dyadic in a simple sense, are more than likely to be the structure of other triadic relations.

If Fuller's synergistic viewpoint were accepted, then Peirce's binding relations of assertoric secondness, potentiated firstness, and relational thirdness could be demonstrated by any of the two strains that exist in the top view of a tetrahedral structure. For example, the assertoric binding of an Index would include a positive action/reaction and result added to the action or reaction of a negative Z cobra, or the interpretant binding of rule might include the action/reaction/result complimented an appropriate negative Z cobra. The advantage of using Fuller's Z Cobra model here is that it reflects quite clearly the bifaciality of the sign while suggesting a triadic structure. Still, one has to be careful here. Since any dimensional model may also reflect the bifaciality of the sign, it simply means that relations between any set of bi-dimensions depend on which dimensions constitute which parts—one and two bi-dimensionals to a third, a first bi-dimension to second and third, or first, second, and third bi-dimensions to a fourth, etc. Such complexities are, of course, what topology is all about, and I do agree with Ketner, although my mathematics is too insufficient to pursue it, that understanding the topological quality of Peirce's thinking[11] is necessary in order to avoid some serious logical and semeiotical difficulties.

I have no intention of doing a synergistic reading of Peirce and I cannot make the mathematical arguments necessary here, but my visual instinct and archetypal sense tell me the triple fork is certainly more complex than something which is "exclusively dyads". The use of dyads does seem to produce an endless series of repeating structures, and I take that point of Peirce's whole evolutionary synechism is that the structures of the universe are not merely endless; they are infinite. They are not ideal and enumerable, but rather they are infinite sets of infinities, and if one uses scale and perspective, or the synergy of tetrahedrons or even multi-phasic Z cobras, then one is adequately representing the irresolvable triadic relation that is capable of growth. Of course, infinity is, at best, a wooly concept, and Godelian caveats or Heisenbergian uncertainty notwithstanding, contemporary epistemologies seem to find it necessary to incorporate structures of infinity. Still, I may be wrong and Ketner may be right. He is a better logician than I, and Peirce's concern for loose usage may stalk my sense of the triangle, but I still think forks point in three directions: a path of origin and two paths of choice; the viewer and the object space viewed, the signer and the sign. "What fork is this?" is exactly the kind of trichotomic question that needs to be asked and explored in understanding the semeiotic.

So Ketner's arguments notwithstanding, I have used pyramidal structures to represent and explore Peirce's trichotomic relation, and what I propose in this study is to examine the trichotomic possibilities in Peirce's thought and to plumb the limits of triadomania. If Peirce's contention that the triad is the most fertile of structures is true, the discoveries about semiosis, Peirce's semeiotic, and the triadic structure itself should prove both interesting and productive. It should help to articulate the pattern of Peirce's categories, to clarify the semiotic boundaries, and to establish just how "natural" the trichotomic form is in the process of semiosis. But at least it will help to clarify the number of relations and typologies of Signs that Peirce discussed in his work, and I hope it continues to develop the investigation that Peirce started so well.

Thus, as he wrote to Lady Welby in 1904: "It seems to me that one of the first useful steps toward a science of the *semeiotic*, or the cenosopic science of signs, must be the accurate definition, or logical analysis of the concepts of the science" (8.343). But he goes on to make that accurate definition as a triadic structure by saying:

> A sign, therefore, has a triadic relation to its Object and its Interpretant. But it is necessary to distinguish the *Immediate Object*, or the Object as the Sign represents it, from the *Dynamical Object*, or really efficient but not immediately present Object. It is likewise requisite to distinguish the *Immediate Interpretant*, i.e. the Interpretant represented or signified in the Sign, from the *Dynamic Interpretant*, or effect actually produced on the mind by the Sign; and both of these from the *Normal Interpretant*, or effect that would be produced on the mind by the Sign after sufficient development of thought. (8.343)

Peirce certainly knew that his trichotomic division promised more than he could articulate in a lifetime, for the "sufficient development of thought" takes a great deal of investigation. By pursuing the pattern of trichotomic division, one should be able not only to discover the limits of triadomania, but also to examine some of the more implicit and latent structures in Peirce's semeiotic. Thus, as Peirce comments to Lady Welby:

> On these considerations I base a recognition of ten respects in which Signs may be divided. I do not say these divisions are enough. But since every one of them turns out to be a trichotomy, it follows that in order to decide what classes of signs result from them, I have 3^{10} or 59049, difficult questions to carefully consider; and therefore I will not undertake to carry my systematical division of signs any further, but will leave that for future explorers. (8.343)

So I trust that this study will help to articulate some of these relations and structures that Peirce envisioned, but did not explain. It does continue the process of trichotomic division, and I hope it will answer some of the difficult questions of semiotic fertility despite the fact that it will surely not specify any large number of Peirce's 59,000 possible signs. I will not claim to be a "thorough student", but I certainly have made trichotomies in this study, and at minimum, I hope they do not abuse Peirce's notions and that this study contributes to, rather than blocks the Path of Inquiry. At any rate, it probes the limits and implications of trichotomous division and articulates some of the ways in which it is such a fertile structure.

Chapter Two

Triadomany explored

The soul of sweet delight, can never be defil'd.
William Blake, "Proverbs of Hell"

Before one can understand how much Peirce utilizes trichotomous structures, it is worth looking at his conception of the categories, for nothing seems more "triadomaniacal" nor more fundamental to Peirce's philosophy (other than perhaps the Semeiotic) than his struggle with the categories. It is, of course, not within the scope of this study to give a detailed account of the categories since numerous books and accounts have discussed them in detail,[12] but it is necessary to sketch them, for the categories are the framework of both the semeiotic, pragmaticism, and all of Peirce's thinking.

2.1. Categorical thinking

The categories are, of course, one of philosophy's perennial problems going back to Aristotle's conversion of a legal term[13] into a logical one that described the extension of a predicate; that is, the "category" is concerned with distributive classification and how one knows what to include under the rubric of a term. The "category" thus has become a logical problem of classification and extension preparatory to determining how terms may interact in logical assertions, propositions, and syllogisms; the category in one way or another assigns distribution to terms, memberships within sets, and boundaries to the sets. Of course, although logicians may grimace at my treatment of logical terminology, much of the philosophical interest in the categorical problem is a concern for the grammar of terms[14] as subject and predicates and how those grammatical items include or exclude other terms, for the effects of grammatical categories lie at the core of the issues of Realism and Nominalism in Logic, since the role of subject, predicate, and copula are the architectonics of Indo-European logic. Such concerns for the grammar of terms are a major impetus in the historical development of semiotics, but historically

where those logico-grammatical categories seem to make a major shift in philosophy is Kant's turning of the semi-grammatical operation of Aristotle into an epistemological and ethical one of judgment, perception, and knowledge. That adaptation moves logic from being basically a grammatical calculus into being a theory of knowing or epistemology, and it is here that Peirce finds his entry, for through the categories he finds both a logic of discovery in the Semeiotic and a grammar of discovery in the Logic of Relatives. That is, one can adequately describe both the process and the structure of knowing, for the tri-relative influence operates in both the Semeiotic and Logic.

Peirce's interest in the categories goes back to his early interest in Kant. His "Short List" of three categories, which frames the whole development of Peirce's thinking, stems from his early Kantian and Hegelian critiques on the dialectic of knowing, the tension of the Ideal and the Real, and the categorical relations between Being and Substance. As Joseph Esposito puts it in *Evolutionary Metaphysics*, "Peirce saw the need for a vast reconstruction of the philosophic tradition" (1980:2) to answer "the riddle of the sphinx" which Peirce conceived in terms of the processes of naming, signing, and classification. By following Kant, he was able keep philosophy "within the prescribed limits ... of the world of appearances;" and by following Hegel, he was able to be confident of the "influence of Reason" upon the philosopher's activities. But Esposito also argues that "Peirce was dissatisfied with both procedures as he found them. Against Kant he would argue that it was bona fide stance to think of the unthinkable transcendental object; ... [and] against Hegel he would argue that a dialectic of Reason in Nature could not be postulated with a basis of precise and detailed logical and scientific investigation" (1980:2-3). These two poles are the anchoring points of Peirce's Scholastic Realism: an epistemological logic which recognizes the power of the sign and yet expects that there is some immediate and dynamic relation between the world of objects and the world of signs. Thus, it is from these critiques and from his development of the categories that Peirce is able to create his sign theory of cognition, a general theory of scientific explanation, and a general critique of epistemology.

The process of critique is a life-long one for Peirce, and Esposito argues that the foundation for the categories is to be found in Peirce's study of Schiller's *Aesthetische Briefe*. From Schiller he develops the first vestiges of the three categories as the *I*, *It*, and *Thou* to establish

"a harmony between the analytic and synthetic methods of Kant and Schiller" (1980:13). Later Peirce tries to join Kant's four main categories of Quantity, Quality, Relation, and Modality to Schiller's three pronominal categories in order to produce something which Esposito presents as a four-layered trichotomy (1980:22), in which there are three stages: the first being an "absolute indifference;" the second an undeveloped differentiation; and the third a combination of the two. Thus, "One can hardly fail to notice the three fundamental conceptions at work.... The *I* emerges as innateness, the *It* as externality, and the *Thou* as the combination of these in the dyadic relation of truth" (1980:41).[15] And Esposito argues that from this first statement of the three relations, "Peirce's task, then, became that of explicating how the real [Platonic and Idealistic] and actual [physical and sensory] were related and how one merged into the other" (1980:47). So from the first the categorical impetus seeks some unity, semiotic or logic, in both the philosophy and science.

2.2. Prescission and precision

The process by which Peirce describes and generates his categories is *prescission*, a term which despite its centrality to Peircean thinking is not very clearly understood. Still he goes out of his way several times to make a distinction between prescission and precision. For example, in *Issues of Pragmaticism* in 1905, he discusses vague and definite signs as a way of explaining the characteristics of pragmaticism, the fourth of which is concerned with the vagueness of "the acritically indubitable" (5.446). He first makes a distinction between the determinate and the definite by saying that determination has to do with a characteristic which "inheres" in a subject or is predicated for it; this determination being exactly the general nature of signs which make them signs. He, then, makes a distinction between definite, or determined, signs and vague signs on the basis of precision, and from that distinction he launches into a longish etymological lesson on the terms of *precision* and *prescission*. I will not repeat the whole argument, but how important Peirce regarded the distinction is shown in the following quote:

> If we desire to rescue the good ship Philosophy for the service of Science from the hands of lawless rovers of the sea of

> literature, *we shall do well to keep prescind, presciss, prescission, and prescissive* on the one hand, *to refer to dissection in hypothesis*, [my emphasis] while precide, precise, precision, and precisive are used so as to refer exclusively to an expression of determination which is made either full or free for the interpreter. We shall thus do much to relieve the stem "abstract" from staggering under the double burden of conveying the idea of prescission as well as the unrelated and very important idea of the creation of *ens rationis* out of επος πτερον {*epos pteroen*}—to filch the phrase to furnish a name for an expression of non-substantive thought—an operation that has been treated as a subject of ridicule—this hypostatic abstraction—but which gives mathematics half its power. (5.449)

Thus, it is important to look at how prescission works. First, Peirce defines the term as "mental separation ... which arises from *attention to* one element and *neglect of* the other" (1.549). It is a term derived from Scotus's *praecisio*, the act of supposing, but Peirce turns it into a subset of abstraction and the process of classification by which to deal with the categorical limitations of terms. More importantly, he makes it the major process by which the categories are discovered, and the very mark of distinction of the categories themselves—the different functions of the human mind and its interaction with the physical world. Peirce divides abstraction into two types, prescissive and hypostatic. Prescissive abstraction is "that operation of the mind by which we pay attention to one feature of a percept to the disregard of others" (4.235); it is apparently an act of perception, or an act of imagination, that is invested with very little grammaticality in categorical operations of classification, for it produces statements like "it is light". It is a vague sign, and to paraphrase Sydney, I suppose one could say that "it lieth not, for it affirmth little".

However, I do not think Peirce here is simply talking about existential import, or as he puts it, "the expression of non-substantive thought" even though "empty categories" are suggested by "non-substantive thought". Rather hypostatic abstraction is primarily a grammatical transformation of categorical operations for purposes of classification; it is a matter of the distribution of terms as the classical logicians termed it. To Peirce hypostatizing "consists in taking a feature of a percept or percepts *(after they have already been*

prescinded from other elements of the percept), [my emphasis] so as to take propositional form in a judgment" (4.235). Then after the prescission, hypostatizing functions "in conceiving this fact to consist in the relation between the subject of the judgment and another subject, which has a mode of being that merely consists in the truth of propositions of which the corresponding term is the predicate" (4.235).

Thus, the statement "it is light" is transformed into "there is light here", or "honey is sweet" is transformed into "honey has sweetness". Such grammatical operations for Peirce are, of course, quasi-fictions, and although they happen to be very useful for cognition, mathematical, and/or signed thinking, Peirce's real emphasis is that such operations are generalizations (4.447n), the essential Thirdness of sign activity. Of course, one may ask how can Thirdness be "quasi-fiction" since it eventually leads to the Ultimate Interpretant, and the answer lies in the process of approximation that is necessary for semiosis growing from prescission toward abstractions (as substantive thoughts) and finally to hypostatic abstractions which assert the relations as real and external to the sign. What is at issue here, I think, is the gradations and divisions of abstraction as a generalizing process and a transformation from pure firstness to semeiotic thirdness.

This may sound, initially to the non-logician's ear, like the twisting, serpentine spoor[16] of a scholastic thinker, and so it may be, but it is also more than just Thomistic word play. This is not a matter of assumed angels sitting on the metaphorical heads of possible pins, but the distinctive differences between prescission and precision are at the very forefront of how human perception of the actual world and human cognition of the real world are interconnected. Like the geometrical abstractions of trigonometric ratios, prescission is an act of imaginative perception utilizing the potential of the mind to perceive the stuff of phenomena, but unlike the Platonic geometers, it makes no assumptions about the other elements from which it is prescinded. To use Anthony Wilden's distinction from *System and Structure*, prescission is at the very boundary between the analog and the digital (1980:155f). It is the Peircean equivalent of No Mind, or *Mu* as the Zen philosophers call it: the ability to sense/perceive without the imposition of digital categories (other than the minimal one or two necessary to continue on the Path to Inquiry). It is, I suspect, the heart of semiosis, a factoring out of characteristics, which

unlike Eco's process of marker abstraction to produce the sign type/token ratio (1976:245), are used without regard to some governing conceptual map.

Prescission is only partially a sign process; it is, as Peirce argues about Firstness, a sign in its purest potential functioning as a totally generative metaphoric structure that does not need the crossing of semantic markers. It is a marker of abductive energy, the process of imagination, and sign generation and is all the Firstness of Sign, short of actual predication or perceptual judgment. It is, I believe, the last (or first depending on the direction of your analysis) frontier of the sign system where there is the edge between the knowing and knowable world. Much like Julia Kristeva's chora and Eco's "implicature", it is an edge where of the ambivalence of sign functions has freest play;[17] it is the area of musement, to use Peirce's term: wonderment, awe, speculation, imagination, discovery, etc. At least this kind of semiotic boundary seems to be hypothetically true for Peirce (whether he would accept being an American Zen Master or not), for prescission is the ability to separate out mentally without assertive prejudice as to the existence, relation, or distribution of terms, and Peirce utilizes it consistently to separate out the categories from Kant's Substance and Being.

Prescission is an act of participial "verb-ing", or of predicate becoming.[18] It is, as Peirce argued (1.471 and 1.515), a meta-process based on the percepts of an organism without judgment as to extant, relational, or distributive classification. It is akin to perception and perhaps lies in the no-man's land between sensory stimulation and perceptual judgment, but it does so without the common-sensical notions of naive experience. As Peirce says,

> We know nothing about the percept otherwise than by the testimony of the perceptual judgment, excepting that we feel the blow of it, the reaction of it against us. .... But the moment we fix our minds upon it and *think* the least think about our percept, it is the perceptual judgment which tells us what we so "perceive". .... I propose to consider the percept as it is immediately interpreted in the perceptual judgment, under the name of the "percipuum." The percipuum, then, is what forces itself upon your acknowledgment, without any why or wherefore, so that if anybody asks you why you should regard

> it as appearing so and so, all you can say is, "I can't help it. That is how I see it." (7.643)

Thus, prescission traces back the stages of perceptual judgment to before the percipuum. It traces to the very edges of its beginning before the any kind of resistance is demanded by secondness; that is, beyond the need for assertion and before the dyadic resistance of the percipuum. Prescission is a difficult concept, but it is one of the most powerful developed by Peirce and also one of the few which he keeps throughout his life work.[19] It is a free-energy producer headed towards full firstness and total potentiality, and it seems to be as close to non-signed stuff as the human mind can come. It is the only possible margin of human knowing, for on the other side, there is only unsigned chaos, unknowing and unknowable—a world without mind (quasi or otherwise) and devoid of understanding or beyond Mind without need for understanding.

2.3. Zeroness

In Peirce's "Short List of the Categories" (1867), he actually lists five different categories: the "accidents" of firstness, secondness, and thirdness framed by the two Kantian categories of Being and Substance (1.555). However, these three accidents are consistently reduced (or expanded) by Peirce into the Three categories, and since the whole short list of categories is argued on the basis of prescission, I think it is worthwhile to look at Peirce's process of excluding Being and Substance from his Short List of fortuitous "accidents".

Esposito argues that Peirce wanted to reduce the separation between the real and the actual (1980:47) in order to underscore that the untouchable transcendence, in either the Platonic Real or the Kantian object, can be abandoned in favor of a transcendental ego (1980:19) that will later become the sign user, without any assertion or association of mentalism characteristic of either Kant's idealism or Plato's rationalism. The non-mimetic quality of the Real forms and the transcendence of the object have a subtle way of prioritizing the ego that connects the shadow with substance and validates being over becoming. So Peirce essentially performs an un-separation of the Ideal from the Actual by prescission, arguing that the categories are prescinded from the process of passing from being to substance:

> The conception of *being* arises upon the formation of a proposition. A proposition always has, ... to express the quality.... Quality, therefore ..., is the first conception in order in passing from being to substance. ....
> Reference to a ground [of a Quality] cannot be prescinded from being, but being can be prescinded from it. ....
> [And] Reference to a correlate cannot be prescinded from reference to a ground, but reference to a ground can be prescinded from reference to a correlate. ....
> [And finally] Reference to an interpretant cannot be prescinded from reference to a correlate, but the latter can be prescinded from the former. (1.551-553)

However, Peirce is really insisting that semiotic Firstness is the last functional level of prescission. There may be Being, but there is no Pure Being as a ground of reference, there is no nothingness, for "the *ground* [of being] is the self [of Pure Being] abstracted from the concreteness which implies the possibility of another" (1.557).

Thus, it is as Wilden argues (1980:161-162) that there is no zero in nature; the continuum is analog; and the digital sign system, based on the concept of zero, is an overlay, a sign overlay, or "reference to", Peirce would say. There is, at base because of the limitations and possibilities of prescission, only a singleness of stuff, a continuum of being which, if pure and categorical, would be transcendental and unknowable. Being, in its Kantian sense, cannot be prescinded because it is a hypostatic abstraction, a hypostatic Self as it were, for it grammatically categorizes and distributes the classifications by its very transcendental untouchability.

Being comes from propositional thinking and is not at all a Firstness in the sense of "red" or "redness;" it is no predicate other than as "existence", and "being" must function as a copula. To reify "being" is to reify the copula and to walk down the forked path of either the transcendental object or transcendental ego—all substance or all being, a situation Peirce's critique is designed to avoid. So in the Peircean critique, Pure Being is just a hypostatic abstraction, but the inventive logical power lies in the prescission of being from stuff and substance as a "verb-ing" (3.459), a monadic quality of feeling which says absolutely nothing about other parts. "It just is-ing", to create a non-English sentence, a thusness no more and no less than the potential to Be.

The arguments of Peirce, like those of Kant and others who deal with metaphysical being, are difficult and sophisticated arguments, and I am not sure I fully understand them. Better minds than mine will have to explain the difference between Kant and Peirce. Still, although my explanation may be wrongheaded or philosophically unsophisticated, the problem of the Transcendental Real is as old as a mythologizing humankind. Plato's Real and Kant's transcendental object are basically cosmogonies that explain the origins of things in terms of the beginnings of objects. They narratize a world order, which as Peirce's secondness argues, is something we already know in the marrow of our experience. Of course, we can (by prescission) conceive of a state before the order, old chaos as the Greeks put it, or pre-firmament for those of the Hebraic influence, or Mandelbrotian sets for those of non-linear fascination, but if we hypostatically abstract that pre-order, we are simply creating a cosmogony to explain the beginnings of things.

As in Lacan's mirror stage, we look into the metaphysical darkness and see the self as Other hypostatically staring back at us. This Other in the cosmos apparently becomes a fundamental problem for our species, whether it be the Great Turtle and the Big Bang, Raven and the Red Shift, or Lilith and entropy, because as Peirce argued we are a sign using intelligence. The precision of reference can establish only the signed probability of interpretants layered between the absolutes of being and substance (1.337). The before-the-known-order is out of our perceptive reach because it is a hypostatic abstraction, *ens rationis*, and there is no analog thing for the digital no-thing. As Peirce says, "were our experience of them [qualities] not so fragmentary, there would be no abrupt demarcations between them at all" (1.418).

Thus, as Peirce puts it in his *Issues of Pragmaticism*, "The Kantist has only to abjure from the bottom of his heart the proposition that a thing-in-itself can, however indirectly, be conceived; and then correct the details of Kant's doctrine accordingly, and he will find himself to have become a Critical Common-sensist" (5.452). Peirce, in all logical (and spiritual) honesty without being lost in the hypostatic dream of Cartesian doubt, uses prescission to create a cosmology which is semeiotic: "The origin of things, considered not as leading to anything, but in itself, contains the idea of First" (6.32). As he puts in *The Logic of Continuity* (1898), "The *very first and most fundamental element that we have to assume* [my emphasis] is a Freedom, or Chance, or Spontaneity, by virtue of which the

general vague nothing-in-particular-ness that preceded the chaos took on a thousand definite qualities" (6.200). A prescissive understanding of sign relation will avoid the hypo-static creation of a cosmogony because prescission does not allow the assertive, distributive classification of hypostatic abstraction that makes the secondness of cognition useless, rather it makes secondness and thirdness absolutely necessary. The semiotic qualities, in the face of pure zero, "in the general vague nothing-in-particular-ness that preceded the chaos" (6.200), will always be quasi-fictions. Being, substance, and all the semiotic host of geometrical abstractions will always be abstractions, and a transcendental relationship will be the basis of our knowing.

I am, of course, arguing here that firstness is essentially singleness apart from any zeroness, for that idea seems to be reflected in Peirce's arguments about prescission and precision. As he says discussing logical quantity,

> the distribution of the *first* subject, is either *singular* (that is, determinate, which renders it substantially negligible in formal logic), or *universal* (that is, general), or particular (as the medieval logicians say, that is vague or *indefinite*). It is a curious fact that in the logic of relatives it is the first and last quantifiers of a proposition that are of chief importance. (5.450)

Of course, one can object that I am distorting logical terms for metaphysical ones, but that is intentional, for Peirce's arguments here (as always) are about perception and the expression of perception, and Peirce often links logic and metaphysics. There is little in Peirce that is mysticism of the categories, but rather logical distinctions between prescission and precision are at the heart of his categorical critique, not only in a logical sense, but a metaphysical one. It is, I think, part of the epistemology that Peirce developed in the Logic of Relatives, pragmaticism, and semeiotic as devices for showing the merging of the ideal real and the actual. Or, to put it more directly, it is his considered position that the semeiotic is the proper method of critique in both logic and metaphysics. As he wrote in the *Objective Logic* (1898),

> We start, then, with nothing, pure zero. But this is not the nothing of negation. For *not* means *other than*, and *other* is merely a synonym of the ordinal numeral *second*. As such it implies a first, while the present pure zero is prior to every first.

> The nothing of negation is the nothing of death, which comes *second* to, or after everything. *But this pure zero is the nothing of not having been born. There is no individual thing, no compulsion, outward or inward, no law. It is the germinal nothing, in which the whole universe is involved or foreshadowed. As such, it is absolutely undefined and unlimited possibility—boundless possibility. There is no compulsion and no law. It is boundless freedom.* [my emphasis] (6.217)

2.4. Firstness

So let us turn to look more directly at this "germinal nothing" and see how Peirce treats Firstness as a category *per se*. The first thing to note about his category of Firstness is that it is monadic; that is, "an element which, except that it is thought as applying to some subject, has no other characters than those which are complete in it without any reference to anything else" (1.292). The term "monadic" is, of course, a term derived from Peirce's expertise in chemistry, mathematics, and logic, and his phaneron is defined as having "a division according to valency" (1.292), where in chemical structure, the valency of bonding is represented by a medadic relations which are filled structures. Since chemical elements are characterized by the number of atoms which are needed to complete their medadic state, the series of chemical elements which need one atomic slot filled are called monadic (3.469 and 4.309),

Also, in Peirce's mathematical work, the rhema of an argument is shown as monadic (4.354 and 4.438) with one blank to be filled, and Peirce's method of graphing it was to represent Firstness, when it was an unanalyzed expression of a rhema, as a monadic dot with a hook (4.441). The primacy of the number One in number theory would suggest the monadic idea of a potentiated one that by combination with itself or two or three can produce the series of whole numbers than we count with. And finally in the *Logic of Relatives* (1896), Peirce represents firstness as a monadic proposition signified by a single blank to be potentially filled (3.465), and both the Predicate and the Rheme are seen as having the monadic blank (4.543). Thus, the one consistent operation for Peirce's monadic structure is the idea of a single slot to be potentially filled by some other relation, and that slotedness, or blankness, implies a division and distribution within a

pre-established continuum. The monad is the quintessential singleness available from the physical models of chemistry and the rational models of mathematics and logic, but the models from those fields also allow Peirce to conceive of the monad as a potentiated relation and thus prepare the way for the development of the Logic of Relatives into the semeiotic.

I suppose the two of the more well known definitions of Firstness are his lecture note that "Category the First is the idea of that which is such as it is regardless of anything else. That is to say it is a *Quality* of Feeling" (5.66), and his definition to Lady Welby that "Firstness is the mode of being of that which is such as it is, positively and without reference to anything else" (8.328). But in the first definition Peirce is plainly more concerned with the psychological aspects of perception, and he works very hard to argue that quality is not dependent on the senses (1.422). Rather he identifies firstness with "possibility" (1.25), for "It is impossible to hold consistently that a quality only exists when it actually inheres in a body. If that were so, nothing but individual facts would be true" (1.422). Therefore, quality is independent of both body and mind (6.327), and Peirce calls "its form Firstness, Orience, or Originality. It would be something *which is what it is without reference to anything else* within it or without it, regardless of all force or reason" (2.85). So Firstness is both the feeling of quality and possibility of quality, but for perceptual minds it is also the possibility of feeling a quality.

However, in the definition for Lady Welby, Peirce seems to take a slightly different orientation toward being and positiveness. I suspect this is because the origin of feelings is particularly, for Peirce, both a logical and psychological problem, one which he uses to draw a boundary between idealism and realism, logic and metaphysics, and his own pragmaticism and William James' pragmatism. As he stresses in one of the letters to James, "If we imagine that feeling retains its positive character, but absolutely loses all relation (and thereby all vividness, which is only the sense of shock), *it no longer is exactly what we call feeling* [my emphasis]. It is a mere sense of quality" (8.267). Rather Peirce argues, "I do not see how that [sense of quality] can be described except as being such as it is, positively, of itself" (8.267). So it is important to understand why Peirce wishes to stress this positive quality so much.

In *A Guess at the Riddle* (1890), Peirce built a string of adjectives that describes firstness as "first, present, immediate, fresh, new,

initiative, original, spontaneous, free, vivid, conscious, and evanescent" (1.357), and although these adjectives pretty well express the range (except for positiveness) that he gave to firstness throughout his life, firstness here is not called "positive". Nevertheless, as he does in the third and fifth "Lectures on Pragmatism" (1903), he identifies this quality with "aesthetic feeling" (5.110), as spontaneous freshness, or as the "object" of phenomenology (5.122), and such a usage is somewhat like Peirce's sense of "positive". Or as in "The Valency of Concepts" (1901), he can stress the "positive internal characters of the subject itself" (5.469). Thus, not only is firstness "mere possibility" (2.235) for object-ness, it is also a "Perfect simplicity" (6.376) of being for subjects "essentially indifferent to continuity", and it "lends itself readily to generalization but is not itself general" (6.205). Essentially Peirce realizes that firstness must be seen in terms of "positive suchness" (7.630) as a contrast with the ambivalent "thisness" of dyadism (1.497).

2.4.1. The first absolute boundary

Since firstness entails a kind of immediacy that is total, or at least capable of Absoluteness, Peirce separates sensation and perception, as seconds, from sense-quality and the percept, as firsts, in order to avoid the pitfalls of psychologism. The Quality of Feeling is intimately bound up with consciousness, but of a peculiar kind in that "It is a mere tone of consciousness", (6.530) which as such a tone of "consciousness in its first state ... might be called *primisense*" (6.551). Holding to the principle of prescission, Peirce argues that "in the percept, these elements of firstness are perceived to be connected in definite ways", (7.625) for the sense-quality is "a feeling" which "emerge[s] from the indefinite potentiality only by its own vital firstness and spontaneity" (6.198); that is, with positiveness that is distinct from the zero state of "nothingness-in-particular". So, it is equally clear that, for Peirce, the other primary notion of firstness is that of the potentiality as a positive, not as a reactive. He often refers to firstness in terms of potentiality as signs dealing with the secondary characteristics of objects, but this potentiality is also part and parcel of the pragmatic view of perception.

Firstness is the "general vague nothing-in-particularness that preceded chaos" (6.200), for it is from this nothing-in-particularness

that we are able to generate perception in all the vividness that Peirce identifies with sensory secondness. In fact, despite Peirce's not recognizing any forms of degeneracy in firstness, he does stipulate degrees of vividness in the quality of feeling. However, such apparent variation is not a contradiction as much as it an attempt to prescind percept from perception and feeling from sensation. Thus, just as Peirce tries to define a percipuum as immediately interpreted by perceptual judgment, he also maintains, in a "Lecture on Habit", that although sense qualities have different degrees of intensity, the greatest intensity will "not belong to the *Firstness* quality, but to the *Secondness* or insistency of the particular application of that quality" (7.496). Then he ends the argument with a most interesting contention:

> I have endeavored to ascertain whether there is in any ordinary state of consciousness a definite minimum degree of vividness, as there is certainly a maximum degree. But all my experiments upon careful mathematical discussion point to the presence of ideas so very *dim*, or wanting in *vividness*, that I am strongly inclined to say, as a first approximation at any rate, that the vividness ranges all the way down to *zero*, and that every cell that ever can be sentient is in some degree sentient as long as it is alive at all. (7.497)

By recognizing the ranges of vividness from a definite maximum to a zero minimum, Peirce is able to prescind feeling from sensation and percept from perception (at the point of the percipuum). He is able to keep quality of feeling from being just a human psychological construct[20] because he makes it a matter of sign activity based on the potential for a firstness to be moved along a path of intensity to secondness. Yet when this is placed in the context of *The Logic of Continuity*, Peirce has quite clearly maintained the integrity of his categories, for he says, "we must not assume the qualities arose separate and came into relation afterward. It was just the reverse. The general indefinite potentiality became limited and heterogeneous" (6.199). And later he continues, "Firstness[,] is essentially indifferent to continuity. It leads readily to generalization, but is not itself general. The limit between ... is essentially discontinuous, or anti-general. It is insistently *this here*. Thus, the original potentiality is essentially continuous, or general" (6.205). Firstness is the quality of

feeling that is potentiated for sign use, but what remains to be seen is how that potential is realized in relation to the categories of secondness and thirdness.

2.5. Secondness

Peirce's second category is, of course, dualistic and dyadic; that is, "an elementary idea of something that would possess such characters as it does possess relatively to something else but regardless of any third object of any category" (1.292). Like the term monadic, "dyadic" is a term also derived from Peirce's expertise in chemistry, mathematics, and logic. And he generally uses those derived patterns in the same manner as the monad, based on chemical bonding, mathematical structures, and logical relations. Rather than one slot to be filled, the dyad has two slots (2.272, 3.571-608). It is a binary (4.309, 4.438, 4.466) which Peirce identifies with the yoking subjects and predicates in propositions (1.515, 2.316, and 4.438) and mathematical arguments. But the dyad is much more productive for Peirce than firstness, for it is the most obvious of the categories. In fact, he wrote three major texts on the dyad: those dyadic sections of *The Categories in Detail* (c1894); the dyadic sections of *The Logic of Mathematics* (1896); and later *Dyadic Relations* (1903), for as he said of dichotomous mathematics, the dyad is "fundamentally important" (4.308). It is in many ways the clearest and most graspable of the categories because it is the most common, most insistent, and most readily available of the three universes of experience.

The dyad is clearly a relation of "two subjects brought into oneness", but the dyad is not just "the subject; it has the subjects as one element of it" (1.326). It is the source of a unity with "no generality in it" (1.328). It is the source a unity of individuality that "involves a distinct reference to the possibility, not of duality merely, as positive unity does, but of plurality (in the sense of more than two)" (6.376). As Peirce puts it, "When we come to the dyad, we have the unit, which is, in itself, entirely without determination, and *whose existence lies in the possibility of an identical opposite, or of being indeterminately over against itself alone*" [my emphasis] (1.447). The unity of the dyad is "a peculiar kind" of unity having to do with its distribution and its opposites. It is reproductive, for dyads can combine, with monads, other dyads, or possible dyads, to

produce ever new dyadic structures. In fact, there are so many, that in *Dyadic Relations* (3.571f) Peirce ends up listing some thirty-seven different types of "lations", as he chooses to term them. Thus, as his chemistry and logico-mathematics had taught him, the dyadic structure is capable of immense replication. It is, as his simile describes it, "like the phrases of a melody" (1.470). The dyadic structure is the Pythagorean inverse ratio, which has been the driver for so much of Western scientific thinking, (see 6.211) and it has grown to fill the plenitude.

But Peirce also identifies four other characteristics with the dyad that complicate even this notion of dichotomous fertility. The first complication is, of course, implied by the nature of a unified relation; that is, the dyad is a set and it has a structure (1.445). The second complication may be the most crucial one, for Peirce identifies the dyad with otherness and opposition (1.447), and he utilizes it as the essential marker of perception, action, reality, and secondness:

> We are continually bumping up against hard fact. We expected one thing, or passively took it for granted, and had the image of it in our minds, but experience forces the idea into the background, and compels us to think quite differently. .... It is a double consciousness. We become aware of ourself in becoming aware of the not-self. The waking state is a consciousness of reaction; and as the consciousness *itself* is two-side; so ... The idea of other, of *not*, becomes a very pivot of thought. To this element I give the name of Secondness. (1.324)

His third complication is the sense of "force" as expressed in the notions of resistance (1.320), struggle (1.322), and a dynamic (6.322) *hic et nunc* (1.458), for those are what detail our experience of actuality as experience (1.321). And the fourth complication, growing from the third, is his notion that actuality and factuality, or reality and logicality, are basically dyadic relations (1.427-40), from which he will finally be able to use the thirdness of sign relation to merge the real and the actual.

Peirce's is strikingly a structural thinker as his logic, semeiotic, and phenomenology suggests, but it is with the concept of dyadic secondness that he is able to begin to trace the patterns of structure in both the actual world and the sign world. One must not think that Peirce is simply and strangely enamored of numbers. He is not some

later day numerologist, rather he senses the fundamental patterning of human sentience and tries to operate with it in a systematic way.[21] Peirce's concept of valency from chemistry and dyadic relations from logic are perfect generators for the kind of sense which he gave to structure in science, metaphysics, law, etc, for as he points out "natural classification takes place by dichotomies" (1.438). Moreover, his general familiarity with binary numbers and his own concept of dyadic structure demonstrate the power of its structure, and if one pauses just a moment to reflect on how important binary structures are to contemporary life (whether genetically, semiotically, or electronically), then one has some sense of the potential of even such a minimal concept of structure. However, Peirce does not conceive of dyadic structures as minimal even if he takes secondness to be an idea that "must be reckoned as an easy one to comprehend" (1.358). Secondness is easy to comprehend because its sense of Otherness is essential and continual to human thinking. The power of our "two-sided consciousness" (1.24) is that it generates the world as Other, as the Not-itself of the perceiving consciousness. In fact, this sense of otherness is the most easily comprehended marker of secondness: "In the idea of reality, Secondness is predominate; for the real is that which insists upon forcing its way to recognition as something *other* than the mind's creation" (1.325).

This Otherness comes from both sense and will because "In sense and will, there are reactions of Secondness between the *ego* and the *non-ego* (which non-ego may be an object of direct consciousness). In will, the events leading up to the act are internal, and we say we are agents more than patients. In sense, the antecedent events are not within us; and besides, the object of which we form a perception ... remains unaffected. Consequently, we say that we are patients, not agents" (1.325). However, Peirce is equally careful not to allow this concept of otherness and opposition to reduce itself to dualism, for the pragmatic of his phenomenology, of his "Synechism, even in its less stalwart forms, can never abide dualism" (7.570). He knows that an unrestrained dualism will leave any analysis as "unrelated chunks of being" and insists that "the synechist will not admit that physical and psychical phenomena are entirely distinct ..., but will insist that all phenomena are of one character" (7.570).

Secondness as Other is the essence of fact, contingent or unconditional, for it is "force without law or reason, *brute* force" (1.427). The Other is always resistant, but Peirce's sense of "bruteness" is

not some Hobbesian reading of the term, for he is using "brute" here more in a logical vein than a cynical one, and more in a playful tone than a despairing one. In fact, he tends to emphasize the surprising qualities of the struggle with secondness and to think of Experience more as a teacher who uses practical jokes than as some cruel, uncaring torturer of poor, helpless humans (5.51). The issue here is the insistence of teaching and learning about an actual, factual world which is certainly resistant and seems other, but is not necessarily cruel, just very much there! Thus, Peirce sees that actual, factual world as one composed of Fact, and he produces a list of twelve characteristics of fact, or secondness, that clarifies his sense of dyadic structure, otherness, and resistance: one, facts have "distinct features;" two, they are "either accidentally actual or involve brute force;" three, they are "here and now;" four, they are "intimately associated" with dyads; five, they are the "sum of their consequences;" six, their "existence consists in fight;" seven, they each are "determinate in reference" to their characters; eight, each is, or can be, a subject of a sentence; nine, each "is connected with a reciprocal fact;" ten, their "natural classification takes place by dichotomies;" eleven, if facts are involved in time variation, their qualities will vary, but not their existence; and twelve, they are accident and "something which *happens*" (1.435). So one can see that Peirce's sense of resistant other is not some simplistic "It's a jungle out there, baby", but rather it is fundamental of his logical realism centered in the quality of secondness as fact.

The dyadic structure of Fact exists by the occurrences or "recurrences" (7.528) of individuality and actuality which eventually become concepts by thirdness, for "Whenever we come to know a fact, it is by its resisting us" (1.430). Moreover, the essence of that resistance is Duns Scotus's phrase of *hic et nunc* (1.458), for it is the here and now of secondness that produces the insistent thisness[22] of experience, be it the resistance of doors, the struggle with ladders, or the compulsion of perception and sensation (5.45) Therefore, Peirce's "bruteness" is no more than resistance, and any hardness of facts "lies in the insistency of the percept, its entirely irrational insistency" (7.659). As he puts it in his "Proposed Work in Logic": "So then, you are compelled, brutally compelled, to admit that there is such an element in the world of experience as brute force. What then is brute force, or what does it seem to be?" (2.84) To which he answers: "A brute force is only a complication of binarities. .... The

bruteness will consist in the absence of any reason, regularity, or rule, which should take part in the action as a third or mediating element. Binarity is one of my categories. (2.84). The brute force is just the "thisness" (1.497) of the dyadic structure, the binary compulsion, and the absence of reason and rule that compels us to know the universe as other.

Still, from thirdness, one can begin to see this pattern of brute resistance as "written" into the universe as the "laws" of time and space, because their "feeling of quality" make up the determinate insistence of the *hic et nunc*. There are regularities of repetition, and if one seeks to be a realist, then one has to try to explain the laws of nature and the regularities of secondness. Peirce puts the problem this way: "the explanation of the laws of nature must be of such a nature that it shall explain why these ... should have the particular values they have. But these particular values have nothing rational about them. They are mere arbitrary *Secondnesses*" (7.511), which, as Peirce tells Lady Welby, are "the experience of effort, prescinded from the idea of a purpose" (8.330). Thus, Peirce returns here to his prime generator of prescission, for the prescission of an arbitrary secondness "from the idea of a purpose" goes to the heart of a structural conception of secondness. Despite all the characteristics listed for secondness (1.358), it still is, even as brute force, resistance, or insistence, mostly a prescissive abstraction that must come to terms with the fabric of time and space.

2.5.1. The role of degeneracy

Therefore, all Peirce's pragmatic discussions of the laws of nature show him dealing with two particularly factitious aspects: the first is the "recurrences" and "regularities" of individual facts (1.411 and 7.511) which produce the "absolutely determinate, fixed *fait accompli*" of past fact; and the second is capacity of human sign systems to produce, by predication and prediction, the future facts of a universe whose elements of Brute Force are both arbitrary and individual, and yet original and capable of generalization. This may seem paradoxical, for it is paradoxical, at least from a perspective of hypostatic abstraction. The dyadic structure must yield the self and the not-self, the individual and the general, the recurrent and the unique to a two-sided consciousness, for it is by its very nature ambi-valent,

pulling in both directions of the dyad. If hypostatically abstracted, it will produce contradictions of paradox, but if prescinded, it will produce the contraries of paradox—the epistemological ghosts of degeneracy and genuineness.

Thus, all through Peirce's discussions of the categories, he is concerned with the genuine and degenerate examples, which he prescinded just as he prescinded the categories themselves. These terms, "genuine" and "degenerate" are terms Peirce used from descriptive geometry, and they are not very clear, but he illustrates degeneracy by reference to geometry.

> A ellipse crossed by a straight line is a sort of cubic curve; for a cubic is a curve which is cut thrice by a straight line. .... Still the ellipse with the straight line across it would not have the characteristics of a cubic. It would have, for instance, no contrary flexure, which no true cubic has. The geometers say that is a *degenerate* cubic. (6.303)

Peirce, as a surveyor who graphed relationships, was aware of orthographic projection as used in architectural and engineering drawings, and in descriptive geometry a spatial figure may be said to be "degenerate" when they do not meet certain parameters, which, for Peirce, relate to the categorical stipulations so that there are no degenerate firsts (2.89), there is only one degenerate second (2.91), and there are two degenerate thirds (2.92). Apparently, "genuine" relations meet the exact stipulations of the categories, and "degenerate" ones do not.[23]

However, this is not a circular self-referential process, for diagrammatic thinking engages is exactly that kind of distinction. It is an essential function of the logic of relatives to do this kind of prescission: genuine categories prescinded from Substance and Being or degrees of degeneracy prescinded from genuine portrayal, just as much as it does any other kind of abstraction. After all, the system being developed is simultaneously a logic and a semeiotic; the roots of secondness in the dyadic structures of chemistry and mathematics and in the confrontation of subject with predicate in a proposition are matters of both classification and predication. The construction of the arbitrary otherness of brute, individual fact into the regularities of predication and prediction is a problem of the relations which exist between the three categories themselves.

Thus, Peirce thinks of two kinds of seconds: "pairs of flashes" and "pairs as habits" (1.413). As he writes to Lady Welby, "Generally speaking genuine secondness consists in one thing acting upon another" (8.330), for a stone falls not because of some law but because of some reaction, but he adds, "there is also action without reaction" exemplified in "the action of the previous upon the subsequent" (8.330) as in the immutable past. Apparently, even though he wants to argue that "Secondness is not a compound of two facts", he establishes a single kind of degeneracy for secondness because "Secondness and Thirdness are conceptions of complexity" (1.525). There is a difference in the dyadic structures of those dyads which combine a monad and a dyad and those which are composed of just dyads alone. A genuine second is one that is composed of two dyads, or "dynamic First, ... by virtue of its own intrinsic nature, or by virtue of a real relation to that second (an action)" (8.330). And a degenerate second is one composed of one dyad and one monad because "its immediate second is either a Quality or an Existent" (8.330). Moreover, Peirce also contends that this "idea of mingling Firstness and Secondness in this particular way is an idea distinct from the ideas of Firstness and Secondness that it combines" (1.528) primarily because a dyadic structure is involved in the very idea of secondness itself.

2.5.2. The second absolute boundary

This seemingly contorted problem is a significant one for both Peirce's pragmaticism and his categories, for part of the riddle of naming is how all the individuality of fact, without any generality, can also become the habits of existence. How can "arbitrary suchness" (6.192) become law in nature? Is it not true that although "the existence of things consists in their regular behavior" (1.411), "regular behavior" and "habit-taking" are the very essences of thirdness? Are not the laws of nature, even if abstractions, based on "constants" of experience that have nothing rational about them? (7.511) Evidently Peirce is walking the razor's edge here between realism and idealism, realism, and nominalism, or between universal mind and brute accident, and to his credit, he walks it with elan. In the fourth "Lecture on Pragmaticism", Peirce meets the question of predication and prediction head on by asking: "But *how can* I

know what is going to happen?" (5.93) And his answer is typically Peircean and leads him to statement of thirdness which is intertwined with secondness: "Whatever reacts is *ipso facto* real. But an object of representation is not *ipso facto* real" (5.95).

So the generality that seems to be implicit in the ensigned discussion of secondness is a result of the thirdness of representation. The power of prediction may very well arise from the aspects of representation, but the power of predication is an aspect of secondness. This seems circular, but in reality it is part of the effect of prescission. The general aspects of secondness, as law (just like the degeneracy of a second as first) are examples of prescission, and what frames them is an implicit, perhaps one should say "pre-prescinded", thirdness. Moreover, Peirce never glosses over this particular problem, for when he discusses objects as part of the Sign, he consistently divides them into Immediate Objects and Dynamic Objects (4.536). This division is necessary for two reasons. One is the *hecceity* in secondness: that "element of existence which, not merely by the likeness between its different apparitions, but by an inward force of identity, manifesting itself in the continuity of its apparition throughout time and in space, is distinct from everything else, and is thus fit (as it can in no other way be) to receive a proper name or to be indicated as *this* or *that*" (3.460). The second reason is that Peirce also recognizes that it is the thirdness of the Sign that allows even the narrow margin of approximation that exists between the Immediate and Dynamic Objects, for

> the only thing that the inference from experience can ever teach us is *the approximate value of a ratio.* [For ... *every proposition* which we can be entitled to make about the real world *must be an approximate one*; we never can have the right to hold any truth to be exact. *Approximation must be the fabric out of which our philosophy has to be built.* [my emphasis]" (1.404)

So secondness will always be marked by its ambi-valence, and any statements about it will be only approximate.

2.6. Thirdness

The process of approximation and solution to the ambivalences of secondness is thirdness, and thirdness is, of course, triadic; that is,

"an elementary idea of something which should be such as it were relatively to two others in different ways, but regardless of any fourth" (1.292). And like the Peirce's other numerical terms, "triadic" is a term derived from his expertise as a chemist, mathematician, and logician. However, this structure is really the final one, for although there are other such structures as "polyads", these will be reducible to either monads, dyads, or triads (3.63, 3.317, 3.483 and 6.323), and as Peirce says "it can be proved ... that no element can have a higher valency than three" (1.292).[24] This third valency is, of course, the three structural slots to be filled, and the importance that Peirce gives to it is the source of all his joking concern about triadomany.

But thirdness is also the source of much of his genius in developing the semeiotic. In the letter to Lady Welby on October 12, 1904, Peirce writes of the mistaken fascination that some have had for dyadic relations, for "*Secondness cannot compass Thirdness.* [my emphasis] .... Even in the most degenerate form of Thirdness, and thirdness has two grades of degeneracy, something may be detected which is not mere secondness. If you take any ordinary triadic relation, you will always find a *mental* element in it. Brute action is secondness, and *mentality involves thirdness.* [my emphasis]" (8.331). Thus, it is mentality of the triadic relation that Peirce pursues with the triadic structure of thirdness, and it is the triadic relations of semiosis that allow him to move between the Scylla and Charybdis of positivistic materialism and vacuous nominalism or between the epistemological millstones of an absolutely deterministic secondness as totally Other and an absolutely undetermined firstness as no-thing.

The triad is logically a predicate joined with the monadic "verb-ing" of firstness and the dyadic subject of secondness (1.471), and Peirce is insistent that triadic structure is the final logical structure and the full "expression of thought or reason" (1.515). But he is not being doctrinaire with this argument. First, just as Esposito argues (1980:163f), Peirce sees the categories as an evolutionary model (1.490) in which, although one may present firstness as a first of potentially or present secondness as a second of actuality, the real joining, or perhaps one should say "originary" point, will be through the third of thought and sign. What has happened is that one has followed a trail of prescissive reasoning on which "it turns out that deep study of each conception in all its features brings a clear conception that precisely a given conception is called for" (1.490). And even though the

trail head is a triangular benchmark, Peirce still seeks to demonstrate experimentally through the graphs, and his analysis that there is a "triadic clause of the law of logic [that] recognizes three elements in truth, the idea, or predicate, the fact or subject, [and] the thought which *originally put them together and recognizes they are together* [my emphasis]" (1.485). Thus, one must start from the position of thirdness, and although the strands of the weave may be prescinded from one another, ultimately the fabric of thought is whole cloth. Throughout the Peirce's logical critique in *The Algebra of Logic* and *The Logic of Relatives*, the triadic structure of relation is being explored even when he seems to be most concerned with dyadic relations, for what is of interest to him is that all structures above triadic can be explained in terms of triads (3.63, 3.69, 3.483, etc) and that, by prescission, monads and dyads also can be explained in terms of triads.

The triple relative is the seed of logic, for "Every dual relative may be regarded as equivalent to a triple relative, just as every absolute term is equivalent to a dual relative" (3.317). The triadic categories form "an evolutionary cosmology" (6.102), and from the tensions between the Absolute first of tychism, or pure Chance (6.102), and the Absolute Last of anancasm, Peirce is able to reach his synechism by arguing that "a triadic relationship cannot be built up from dyadic relationships. Whoever thinks it can be so composed has overlooked the fact that *composition* is itself a triadic relationship, between two (or more) components and the composite whole" (6.321). Thus, the emblem of evolutionary love (6.287-317) is the triad, the —<, the forked stick, really is "an emblem of fertility in comparison with which the holy phallus of religion's youth is a poor stick indeed" (4.310), and the categories really do form a whole cloth even if we "see that it is impossible to deal with a triad without being forced to recognize a triad of which one member is positive but ineffective, another is the opponent of that, [and] a third intermediate between these two, is all-potent. The ideas of our three categories could not be better stated in so few words" (4.317).

If Peirce's arguments are correct, and I think they are, then "Reality is", as he says, "an affair of Thirdness as Thirdness; that is, in its mediation between Secondness and Firstness" (5.121). It is the "medium or connecting bond between the absolute first and last" (1.337). However, one also needs to remember that Peirce points out that

> there is no absolute third, for the third is of its own nature relative; and this is what we are always thinking, even when we aim at the first or the second. The starting point of the universe, God the Creator, is the Absolute First; the terminus of the universe, God completely revealed, is the Absolute Second; every state of the universe at a measurable point of time is the third. (1.362)

This explanation of thirdness may grate on our modern agnostic ears, and we have to ask if Peirce is deifying the Sign here, or is he signifying the Deity? Is the triad really a disguised form of the Trinity? Is what Peirce has developed simply a pragmatic version of Anselem's ontological argument that if we must conceive of God, we must conceive of Him as existing? I do not think so, for Peirce is much too careful in his assertions about existence. He makes a clear and prescissive distinction between existence and reality, and existence is only "a special model of reality ... absolutely determinate" while reality is "a special mode of being ... of which ... things that are real are whatever they really are, independently of any assertion about them" (6.349). When Peirce addresses the question of the existence of God (6.494f), he is very careful to couch the question in terms of the reality of God and to say that any errors in belief are from precision of the concept rather than prescission (6.496). He is careful to say that the thought about the Real, implying God, of course, even if he feathers the term to "Supreme Being", still leaves "the real character ... absolutely untouched" (6.495). Thus, Peirce makes it clear that the Reality of God must always be a prescissive abstraction into sign, not a hypostatic abstraction into existence. Although the godhead may be prescinded from all of this, Peirce would apparently not abstract it into existence. All he will do is be insistent that the Universe, or God, is a third, a signed thought.

2.6.1. The central boundary

So if we are in a universe of thirds, either by logical analysis or semiosis, how does one construct the categories, and the answer is through prescission. Peirce prescissively constructs degrees of degeneracy with each of the categories, none for firstness, one for secondness, and two for thirdness, not as some logico-mathematical

add-on, but as necessary elements because of "the inadequacy of Secondness to cover all that is in our minds". (8.331) The world of secondness may be prolific, but it is mute in its relations, and to understand it, in any relational sense, one needs thirdness. Perhaps after all, the "mental element" in thirdness is exactly that, Mind, and it creates the categories because they are prescissively necessary to avoid the idiocies of random chance, and to make chance a "fortuitous distribution" that gives rise to the concept of continuity (6.81) and eventually to growth.

Still, Peirce is always honest enough to search for the "genuine" even as he finds the degenerate, and in his "Notes on Metaphysics" written in 1909, he gives one of the more astounding analyses of thirdness in his work, for it suggests that the problem of the categories is the problem of Life. So I would like to quote it at length. At the first Peirce says that:

> For forty years, that is, since the beginning of 1867, I have been constantly on the alert to find a *genuine* triadic relation—that is, one that does not consist in a mere collocation of dyadic relations, or the negative of such, etc—which is not either an intellectual relation or a relation concerned with the less comprehensible phenomena of life. *I have not met with one which could not be reasonably be supposed to belong to one or the other of these two classes.* [my emphasis] (6.322)

Then he continues with the strange example of handed phenomena:

> As a case as nearly brute and inorganic as any, I may mention the form of relationship involved in any screw-form which is definitely of right-hand, or occidental mode, or is definitely of the Japanese, or left-handed, mode. Such a relation exists in every carbon-atom .... But where the action of chance determines whether the screw will be a right-handed or left-handed one, the two forms will, in the long run, be produced in equal proportions, and the general result will not be definitely, or decisively, of either kind. We know *no case of a definitely right-handed or left-handed screw phenomenon*, where the decision is certainly due to the intervention of a definitely one-side screw in the conditions of that decision, *except in cases where the choice of a living being determines it*; as when Pasteur

> picked out under the microscope the two kinds of crystals of a tartrate, and shoved those of one kind to the right and those of the other kind to the left. [my emphasis] (6.322)

But more significantly, this situation of handed phenomena suggests to Peirce the organizing principle of life, so he says:

> We do not know the mechanism of such choice, and cannot say whether it be determined by an antecedent separation of left-handed screws from right-handed screws or not. No doubt, all that chance is competent to destroy, it may, once in a long, long time, produce, but *it is a question whether absolute chance—pure tychism—ought not to be regarded as a product of freedom, and therefore of life, not necessarily physiological.* [my emphasis] (6.322)

Then Peirce compares the product of life with the laws of dynamics by pointing out:

> It could not be caused, apparently, by the inorganic action of dynamical law. For the only way in which the laws of dynamics involved triadic relations is by their reference to second differentials of positions. But though a second differential generally involves a triadic relation, yet owing to the law of the conservation of energy, ... the dynamic laws for such phenomena are expressible in terms of first differentials. It is, therefore, a non-genuine, or, as I phrase it, a "degenerate" form of triadic relationship, which is involved in such case. (6.322)

Thus, Peirce argues that the laws of dynamics are not sufficient to produce the living principle, for it would be "degenerate;" that is, a world of only secondness is necessarily degenerate, and a world of only firstness would have no reality. Apparently for Peirce, the problem of the categories is a problem of the Mind and how the Mind comes from what is apparently un-minded matter. So he concludes this discussion of a search for genuine triadic relations by saying:

> In short, the problem of how genuine triadic relationships first arose in the world is a better, because more definite, formulation of the problem of how life first came about; and no expla-

> nation has ever been offered except that of pure chance, which we must suspect to be no explanation, owing to the suspicion that pure chance may be itself be a vital phenomenon. In that case, *life in the physical sense would be due to life in the metaphysical sense.* Of course, the fact that a given individual has been persuaded of the truth of a proposition is the very slenderest possible argument for its truth; nevertheless, the fact that I, a person of the strongest possible physicistic prejudices, should, as the result of forty years of questionings, have been brought to the deep conviction that *there is some essentially and irreducibly other element in the universe than pure dynamism* may have sufficient interest to excuse my devoting a single sentence to its expression. For you may be sure that I had reasons that withstood several, not to say hostile criticism, and if I live to do it, I shall embody them in a volume. [my emphasis] (6.322)

Although Peirce never completes the "Notes on Metaphysics", I have quoted this lengthy passage for a specific reason. In my discussion of thirdness, I have made little reference to that most obvious of thirds, the sign. That was not an oversight. I take it that the sign relation is, as Peirce said, the easiest of thirds to examine (1.338), and that is what this whole study attempts to do; so I will have more to say about the sign in later chapters. For now what I want to stress is the prescinded nature of thirdness and the related problem of the merging of the real and the actual, because the confusion that Peirce struggles with in his semiotic system is the confused separation, the hypostatic abstraction, of the two, which assumes that the Sign is a transparent entity of no real effect in the two worlds, but as Peirce will argue later, the Sign is "the principle of growth of principles" (8.585).

Obviously, one of Peirce's main points in his Semeiotic is that the ensignedness of our discussions, our philosophies, our mentalities, our realities, or our religions is an inescapable condition of thirdness. But he always, of course, identifies the sign as a third; he always sees it in terms of its generality, its rule, and its law. So it should be, but understanding how systematic Peirce is in relating all of this together is more important than simply repeating the triadic definitions of sign. And I can think of no more forceful way of underscoring that very systematicity than by stressing what Peirce himself saw—the evolutionary infinitude of the sign. A secondness is prescinded from a thirdness, and a firstness is prescinded from a secondness just as the

arbitrary is prescinded from the purposive, and quality of feeling is prescinded from the resistance of the arbitrary, for "the universe is a vast representamen, a great symbol of God's purpose, working out its conclusions in living realities" (5.119).

2.7. The problem with boundaries: can they be trichotomized?

Peirce makes it clear that there is no "absolute third" (1.362), only an "absolute first and last" (1.337), because a third is always relative. Whether one talks of "zeroness" as I have, or pure zero as Peirce does, there is a boundary to the semiotic that is absolute and unattainable, for infinite potentiality is infinite, and it can be divided, or actualized, forever. Moreover, our lived experience teaches us that secondness is the first boundary to the semiotic, for in its individual, particularized resistances, there is only a single here and now forever. Such boundaries, conceived as either pure being and incarnate substance or first and Last, are, of course, the generative problems of metaphysics either Platonic, Cartesian, Kantian, Hegelian, or Peircean, but Peirce's synthesis of them lies in the "medium of the connecting bond" (1.337) of the relative third.

The semeiotic actually forms the territory between the two absolutes. It is the center, in perception, existence, or cognition, of the known and knowing universe, and it too forms a boundary of sorts. The danger, perceived or real, about scholasticism or nominalism is that they would make all mere, empty words unconnected with reality, but Peirce articulated, defined, and defended a Scholastic Realism as a synthesis which would allow both the arbitrariness of sign and the realism of reference. In fact, he so defends it that he begins to talk of the Man-Sign and the God-Sign as though all were sign, and so it is, for the known and knowing world. But does not such contention simply prioritize the sign, making it the Absolute One uniting an apparent dualism of only "apparent" absolutes?

Such a response would have been easy, but it would have been characteristic of thinking that Peirce would have called, at best, "unclear". And he, although perhaps tempted, does not settle for that form of one absolute boundary which will resolve the problems of some prior "absolute" boundaries. Rather he stays with the "relative" position and keeps the semeiotic view to confront the problem of approximation in the relationship between the Dynamic

and Immediate Objects and an Ultimate Interpretant, the problems of embodiment in replicas, the tensions between assertion and signing, the limits of pure chance and growth, and the trichotomizing of the categories. Still, it seems to be in the nature of folk to want their Absolutes clear, and although Peirce tries very hard to avoid giving such a "Sop to Cerberus", many will come away from Peirce thinking they have found the clear absolute. They will see one of the three categories as the primary one putting the other two in a dialectical synthesis of subordination. Either all is firstness and pure chance, or all is secondness and pure resistance, or all is thirdness and pure sign. Yet even though Peirce surely emphasizes the sign and the necessity of thirdness, he does not accept the third dialectical synthesis, rather he settles for the pragmaticism of the semeiotic and tries to trichotomize the categories.

So how does one trichotomize two absolute boundaries and one relative boundary? As I will argue later following Lotman's model of Culture and Non-Culture (1974), it is the nature of circles to have two peripheries: the external arc of the circumference and the internal center. A dynamic circle is a vortex which turns the central boundary toward the external one and vice versa; it is not static but "processes" the internal and external materials with some exchange between them. Such is an old archetypal model characteristic of duality like the Chinese Yin and Yang: two interlocking tear drops, of opposing colors, inside a circle (which in some versions has a small dot of the opposite color inside each tear drop). The Yin-Yang represents the eternal duality of the universe, outside of whose boundaries is the ineffable Tao, such a rendering is probably a universe of firstness: a position Peirce identifies with the pessimistic view (1.362). But one can adapt the Yin-Yang to model the other dialectical syntheses as well. If Yin is seen as firstness and Yang as thirdness, then the external is secondness: a position which Peirce identifies with the Epicurean view (1.362). Or if the Yin is seen as firstness, and the Yang is seen as secondness, then thirdness is the external: a position which could represent empty nominalism, except Peirce identifies it with growth and evolution as an ever changing set of interactive thirds.

It is because of the actions and interactions of Interpretants that growth and development can take place. The two absolutes and the relative are trichotomized by their modalities of possibility, actuality, and necessity into the growth of evolutionary love. What could have been only philosophical pessimism and/or idealism is now the potential

modality of the Semeiotic; what could have been only actual and epicurean is now the actual and scientific modality of the semeiotic; and what could have been only nominalistic is now the habitual modality of the semeiotic. Rather than an ineffable One speaking as a transcendental ego/Other, or an epicurean Two existing as transcendental object and transcended ego mysteriously locked in one perceiving mind, there is now the habituating growth of the Semeiotic: No consuming I, no solipsistic It, but a growing Thou—perhaps the other signers, perhaps the godhead, but certainly the sign waiting to grow some more in the light of evolutionary love.

2.8. Evolution and the categories as a trichotomizing schema

Such spiritually aimed assertions on Peirce's part tend to make some semioticians uncomfortable, whether it is put in terms of Peirce's transcendentalism, or his nineteenth century progressivism, or his evolutionary model. But I think such anxiety is more our difficulty than Peirce's. We tend to treat him somewhat like a rude child of a more naive age, perhaps taking his backwoodsman metaphor too much to heart, but Peirce is no soft-headed mystic playing with the good feelings of unity with the One. He remains always of "physicistic prejudices", as he put it, and he was not afraid to grapple with the transcendental Sign as shown by the passage quoted above from the *Notes on Metaphysics*, for the seemingly simple direction of a spiral is, as Martin Gardner argues in *The Ambidextrous Universe* (1979), a fundamentally epistemological issue. In fact, it is at the very center of the issues being raised by both Peirce and contemporary physics.

We do not yet understand the direction of the change in the universe, and perhaps we never will. We simply do not know how a world of apparent law springs from chance. We do not understand the processes of chaos. We do not know how "simple" laws can produce such a complex universe as we live in. We do not know how the viewer's perceptions effect the observations, we simply know they do. Perhaps, Peirce is right and the universe is one big Sign, perhaps he is wrong; and perhaps that ideal will prescind differently than we believe it should. Still, his categories, his semeiotic, his Logic of Relatives, and his Existential Graphs are devices for creating an existential epistemology that faces the problems of feeling, resistance, and law with the honesty of inquiry. Just because we have known the

vastness of space, heard the rolling bones of entropy, felt the coldness of heat death, smelled the rot of life, seen the red shift, and tasted the lie's mortality, that is no reason to assume we have found the Final Interpretant. There is no such beastie in a pragmatic universe except hypothetically, and the Godhead, if it is a Sign, is infinitely regressive, and so are we all—"rocks, and stones, and trees, rolled round in earth's diurnal course". We inquire and tell our answers to the riddling Sphinx and trust to the Community of Inquirers and our own logical capacity to keep us honest, and what binds the community and the logic is the thirdness of the semeiotic.

The Community of Inquirers is essential to Peirce's evolutionary concept of metaphysics and the categories, but the Community of Inquirers is not a church of hypostatic reasoning. Joseph Esposito's instincts about the development of the categories are, despite his anxieties about Peirce's religiosity, basically correct. Peirce was engaged in a "reconstruction" (1980:2); his method of combining sign-theory with reference (1980:4) was consistently followed; and "as he progressed he began to realize that the early abstract theory of hierarchical categories required a *telos* to give it dynamism and vitality. Thus habit-breaking chance gave way to habit-taking order, Firstness to Thirdness, abstraction to living concepts, and belief fixing to pragmaticism" (1980:5). The categories, although developing and evolving concepts throughout Peirce's life, pretty well keep some consistent significance as an activating the power of his semeiotic. They form an evolutionary epistemology, which is based on the trichotomizing schema of the prescinded categories for the purposes of critique. As Esposito describes it:

> It is part of a complex set of hypotheses devised to explain the workings of ordinary cognition. From a phenomenological point of view the operator of 'firstization' instructs that a subject or phenomenon be looked at 'in itself'; the operator of 'secondization' instructs that the subject or phenomenon be compared with either internal or external characters or with its own environment; and the operator of 'thirdization' instructs that a subject of phenomenon be regarded as a totality of influences within a postulated unity. Then the result of any operation may itself, after hypostatic abstraction, be operated upon. (1980:196)

Thus, the evolutionary process of the categories is itself a critique done publicly for the Community of Inquirers and subject to the demands of logic and Habit, not as a blind allegiance to mechanical repetition or to a black-boxed faith, but as a living growing epistemology. "The Evolutionary Process is, therefore, not a mere evolution of the existing universe, but rather a process by which the very Platonic forms themselves have become or are becoming developed" (6.194). Esposito justly calls it "time's arrow of evolution" and says, "Indeed, the categories themselves require directionality: there can be no Thirdness until there is a Secondness, and no Secondness until there is Firstness" (1980:165), but in Peirce directionality is as much prescission as it is evolution. However, Esposito does go on to point out the problem in the evolutionary model by discussing the relationship between habit-breaking chance and habit-taking order. But this is not just a Peircean problem; it is one lying at the heart of the Western episteme.

As Ilya Prigogine has observed in *Order Out of Chaos*, "A preoccupation with time runs through our century. Think of Einstein, Proust, Freud, Teilhard, Peirce, or Whitehead" (1984:17). Our physical understandings and our semiotic processes create the arrows of time which frame the evolutionary issue, for as Prigogine says, "There is competition between stabilization through communication and instability through fluctuations. The outcome of that competition determines the threshold of stability" (1984:189). Thus, the focus of Peirce's habit-breaking chance and habit-taking order is the same as the problem in chaos and order, or the entropy and negentropy: how does a localized stability maintain itself in the face of an apparent universal entropy? How does a ruled, embodied third exist in a universe of brute force apparently derived from pure chance?

The answer, for both Peirce and Prigogine, is the sign systems of living order. For Prigogine, it is "the interaction of a system with the outside world, its embedding in non-equilibrium conditions, [which] may become ... the starting point for the formation of new dynamic states of matter—dissipative structures" (1984:143). And for Peirce, "there is some essentially and irreducibly other element in the universe than pure dynamism" (6.322). As Esposito understands it, "It appears, then, that when he [Peirce] speaks of tychism he means to characterize an entropic factor and when he speaks of synechism he means the opposing negentropic factor" (1980:169). Thus, here is an answer for linking habit and prescission. Those two

seemingly contrary forms, like chance and order, are essentially structures of negentropy and entropy given a semiotic cast; that is, a logic of ratios and inverse ratios that tries to explain the existence of things, not to prove their existence. And by using the habit of prescission, Peirce is able to respect the approximation of our knowing, while still sensing the necessity of growth: "This can only be a *principle of growth of principles*, [my emphasis] a tendency to generalization" (6.585). Peirce recognizes that a dynamic and dead universe needs no explanation, but a dynamic and living one cannot escape it. So he makes his tendency to generalization an unusual one—one that recognizes the organizational effects of the abstractive principle of both hypostasis and prescission.

Esposito points out in the beginning of his study of *Evolutionary Metaphysics* (1980) that much of Peirce's categorical impetus comes from Schiller's *Aesthetic Briefe* (1854). He contends that the categories first appear in the "unrecognizable disguise" (MS 310) of the I, It, and Thou, which in the 1857 Harvard forensic paper was called the "*I*-impulse and the *It*-impulse, with their unity producing a Thou--impulse" (1980:12). Esposito seems to think these three are mostly of historical significance since Peirce essentially drops them. He believes they are a bit too psychological (1980:82) although he does credit them with being excellent carriers of the notion of triadicity because they "could function as transcendental categories pertaining to relations and things" (1980:56). Esposito is, I think, expressing some of the modern anxieties about Peircean transcendentalism rather than seeing the full thrust of Peirce's conception, for two reasons. One, all these early terms are "shifters", as Jakobson called them, the linguistic signs which shift with usage by a user and yet are clearly understood by users of a sign system, and two, the issues of "aesthetic feeling" are not in anyway secondary to Peirce's concerns, as the arguments on firstness and prescission demonstrate.

In many ways, what Peirce has done is to develop the categories as metaphysical, or prescissive, shifters, much like Martin Buber in *I and Thou* (1970) does with his I, It, and Thou. But rather than the shifters simply having grammatical and pragmatic reference; they become markers of states of prescissive existence. Of course, Peirce would probably not agree with Buber's contention that the "You is unmediated" (1970:62), but he might very well agree with the essential recognition that "the world as experienced belongs to the basic word I-It" and that "the basic word I-You establishes the world of

relation" (1970:56). I am sure Buber is too dualistic for Peirce because he never seems to examine the It-You relationship (which I assume Buber's theology takes as granted) that is exactly the evolutionary problem raised here. Still, using the linguistic shifters to generate a prescissive understanding of relation is what the Semeiotic is about, and the similarities between Peirce's aesthetic concerns and Buber's spiritual concerns are really ones of belief. So firstness, as Esposito justly underscores it, is a dreamy state (1980:165), all potential and all wrapped up in feeling, sometimes aesthetic, sometimes spiritual, or sometimes scientific. Secondness is a universe of things—dyadic, dynamic, and dead, but ultimately not giving the satisfaction the ensigned "I" needs to survive. But thirdness introduces the "Thou"—the connective of speech and agapestic familiarity, the negentropy of a two-sided consciousness and abstraction, and the synechism of understanding, tolerance, and love—"the onement of religion and science" (7.578). And at-"onement", if it is to exist will come through prescission, and not precision; it is the real the semiotic force, for Time's arrow may be merely the semiotic arrow.

Chapter Three

Tradomany ensigned: the types of signs

The hours of folly are measur'd by the clock,
but of wisdom: no clock can measure.
William Blake, "Proverbs of Hell"

Peirce begins his trichotomous "Division of Signs" with a detailed definition of sign that establishes the basic tri-relative influence and names the three basic parts of the sign:

> A sign, or *representamen*, is something which stands to somebody for something in some respect or capacity. It addresses some-body, that is, creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representation. "Idea" is here to be understood in a sort of Platonic sense, very familiar in everyday talk; I mean in that sense in which we say one man catches another man's idea, in which we say that when a man recalls what he was thinking of at some previous time, he recalls the same idea, and in which when a man continues to think of anything, say for a tenth of a second, in so far as the thought continues to agree with itself during that time, that is to have a like content, it is the same idea, and is not an each instant of the interval a new idea. (2.228)

I quote this well-known definition not only to call attention to Peirce's most basic terms, but also to underscore two emphases in his thinking. Besides the sign's tri-relative influence, there are two major issues highlighted by this definition. One issue is the relation of signing to the human mind, for Peirce, like most of us, often discusses the sign as a human phenomenon because it patently is that. However, that human focus is also modified by a second concern for "ideas", not so much as mental events, which of course they are, but as the product of signing. These two issues are closely related to one of the central

issues of semiotics: *Are signs and ideas the products of only human thinking, or are signs and ideas something which can exist outside of the linguistic universe?* Here it would seem that Peirce is giving the "sop to Cerberus", as he put it to Lady Welby, and dealing only with human signing because he thought it would be difficult for his "broader conception" to be understood. Still, as he soon made clear in the "Division of Signs", and in his pragmatic and scientific writings, the issue of the sign is much larger than simply human thinking. Even though the chief emphasis may be upon human signing, the tri-relative influence, for Peirce and myself, seeks to apply to all signing. What is at stake in Peirce's amplified definition is the whole range of a general theory of signs as more inclusive than any theory of meaning.

Because representation (to a Mind) is such a homocentric notion, it is important to understand how broad the term "representation" is in Peirce. The sign as a representamen represents its object to an interpretant and closes the triadic relation in an especially productive way, for the interpretant can carry on the development of the original representamen to other kinds of representations, and the "representation" rather than just being a mental act is an externalized relation of the sign itself. Thus, the concept of representation is a most important one, for it is the actual stuff of the sign relation. It is the "glue" binding the semeiotic together; it both informs the types of signs and shapes the classes of signs; so it is worth stressing Peirce's definition of representation:

> To stand for, that is, to be in such a relation to another that for certain purposes it is treated by some mind as if it were the other.
>
> Thus a spokesman, deputy, attorney, agent, vicar, diagram, symptom, counter, description, concept, premiss, testimony, all represent something else, in their several ways, to minds who consider them in that way. .... *When it is desired to distinguish between that which represents and the act or relation of representing, the former may be termed a "representamen", the later the "representation".* [my emphasis] (2.273)

Again note the split between the human and the non-human. Although Peirce does not trust psychological explanation, he realizes the importance of human activity in signing, but he also recognizes that

there is a relationship which functions for, not just in, the human mind. So it is important to remember that representation is a sign's activity as much as it is a mental activity, and though mind may detect it and use it, the human mind is not a necessary cause for signing. What is necessary is the trichotomous relationship, for out of that relationship one can develop both the Types and Classes of signs, and that is exactly what Peirce pursues through out the semeiotic under the guise of trichotomizing the categories and their aspects within signs.

3.1. Peirce's first trichotomy: signs related to themselves

Peirce's first trichotomy of signs is the sign in relation to itself; that is, the focus is upon the sign itself as a first—its potentiality, its actuality, and its rule, which Peirce calls respectively the Qualisign, the Sinsign, and the Legisign. Thus, "a Qualisign is a quality which is a sign" (2.244) existing only as an embodiment. "A Sinsign is an actual existent thing or event which is a sign" (2.245), and "a Legisign is a law that is a Sign" (2.246), which is applied in its replicas. For example, the word *for* at the beginning of this sentence is a replica of the law of adverbial prepositions like the English word *for*, but it has here only this one, individual, and actual occurrence in this one, individual, and actual sentence. Also, the fact that I have called attention to it, may give it some "feeling of quality" that will exist, I suppose, because of the puzzling experiences people have with self-reflexive sentences—a situation which could potentially come to stand for the whole problem of self-reflexive structures. Nevertheless, the first trichotomy of signs emphasizes that the firstness of signs is equally as important as their thirdness or secondness, for without the potentiality to be signs our world would be more different than we could conceive, and treating signs as firsts is somewhat of a prescissive abstraction since we actually encounter them only as sinsigns or as replicas of legisigns.

3.1.1. Qualisign

The problem of the Qualisign is that its source is in the Quale, a Peircean term "which refers to a ground" (1.557), and which he uses as the minimal division of Qualities. It is embodied by participa-

tion of "vividness" in the feeling of quality (6.222). It is the last categorical marker to be prescinded and it exists as two types: either prescindable because of an internal quality of agreement to a ground, or unprescindable because of a factual opposition to a ground (1.558). The quale is apparently the last discussable level of firstness, for "each *quale* is in itself what it is for itself, without reference to any other. It is absurd to say that one *quale* in itself is like or unlike another" (6.223). Still, the qualia are, for Peirce, the source of unity in "so far as they are brought into one's quale-consciousness at all" (6.228) because they are a perfect simplicity of firstness and involve "a distinct reference to the possibility ... of plurality" (6.376). Peirce argues that "qualities are mere eternal possibilities" (6.200) in a universe of boundless freedom, but "the logic of freedom, or potentiality, is that it shall annul itself. For if it does not annul itself, it remains a completely idle and do-nothing potentiality" (6.219). As with firstness (6.199), he insists that qualities do not arise separately, but "mediately", for "what immediately resulted was that unbounded potentiality became potentiality of ... some quality" (6.220).

If I understand the thrust of Peirce's arguments here, the quale is undifferentiated potentiality as close to undigitalized analog stuff as one can get; it is the prescinded possibility to exist as Feeling, unspecified, unembodied, and perfectly simple. It is the very first marks of character and represents the capacity of signs to generate new signs and new information. As Peirce defines quale-consciousness, it "is entirely simple", and any "consciousness, so far as it can be contained in an instant of time, is an example of *quale*-consciousness" (6.231). So, it is very close to the nature of an abduction, which may later be submitted to the tests of hypothesis, the inferences of induction, and the implications of deduction. Of course, it may also come from an already established sign, such as the archetypal "red" which this has a "feeling about it" of, say, "danger" or "excitement", or it may come from unsigned stuff. Or even more abstractly, "a dangerous red" may be prescinded into a chain of something like "danger", then "quality", then "being", then "firstness", or it could fork into a chain of "emotion" then "feeling" then "response" then "responder" then "psyche". But the real significance of the "ineffable" qualia is that within any one quale there are still infinities of qualia to be ensigned, and moreover, infinities of infinities. Any quale is still just a collection of possible qualia in the continuum, and there

is no "real" bottom, no final or ultimate quale, to any specific chain of qualia.

Therefore, Peirce has very little to say about the quale *per se* of signs other than his rather sketchy discussions of the qualisigns in the "New List of Categories" and the Letter to Lady Welby because, I suspect as he said, "those qualities have no intrinsic significations beyond themselves" (5.476). The thrust of much of his discussion of qualia has to do with the occurrence of Quality as a prescindable problem of firstness and its relation to perception, which is at base a problem of secondness and consciousness. Ultimately, the qualities are the stuff of quale-consciousness itself (6.234), and their potentiality is only "a tinge of consciousness, a potential consciousness" (6.221)—just infinitesimally this side of meaninglessness. Thus, as Peirce says, "the zero of bare possibility, by evolutionary logic, leapt into the *unit* of some quality" (6.220). The qualia are the infinitely divisible aspects (by digital process) of the continuum (as analog); so much so that he was "strongly inclined to say, as a first approximation at any rate, that the vividness ranges all the way down to zero" (7.497). The qualia are, thus, the full continuum, and one cannot logically go past their "margins" since they are never "an object of observation" (5.369).

The qualisign as type

If the qualia are the logical limits of consciousness, then the qualisign as type is the earliest, or lowest, or latest,[25] in the sense of prescission, possibility of sign. Peirce sees the qualisign as particularly identified with "two other properties of the sign which are of great importance in the theory of cognition" (5.287). One property is that of the "material qualities of the sign", which "have nothing to do with its representative function" (5.287). This property refers to the physical medium of the sign (such as the three letters of the word *man* or the flatness of a picture) and which can be as arbitrary as anyone chooses. But there is also another property of the sign, and that is that it "must be capable of being connected with another sign of the same object, or with the object itself" (5.287). The first property allows for material to be used as signs with the qualities of the medium being manipulated by the various contrastive means necessary to produce a digital system, but the second property deals with "the

usefulness of some signs—as the weathercock, a tally, etc—... in their being really connected with the very things they signify" (5.287).

These more useful connections, of course, become the indexical and rhematic functions which will demonstrate themselves in various sinsigns. And despite the fact that Peirce usually describes the icon in terms of similarity rather than contiguity, the demonstrations of these two properties are the key to understanding Peirce's concept of the qualisign, for "it cannot actually act as a sign *until it is embodied* [my emphasis]; but the embodiment has nothing to do with the character of a sign" (2.244). The icon becomes the embodiment of the qualisign "by the power of association" or the index becomes the embodiment in "really [being] connected with the very things they signify" (5.287). Thus, the embodiment will be either as a "descriptive potisign" or a "denominative potisign" (8.361), but it is the ability of the qualisign to represent any specific quality, because it functions monadically as the rheme, or a class name that will become the subject of an argument, that allows them to be the "copulative potisign".

3.1.2. Sinsign

The sinsign has its source in the facticity of secondness; it is the sign perceived as "an actual existent thing or event [which] ... involves a qualisign, or rather, several qualisigns ... of a peculiar kind[26] ... [which] only form a sign through being actually embodied" (2.245). The sinsign has two particular characteristics, which are from its nature as a second; one, it is that which allows the logical necessity of classification, and two, it is something which reacts (3.611-613). Its particular singularity, that is, as a second in actual existence, is that of the percept, which has a "double definiteness" in which "the percept offers no range of freedom to anybody who may undertake to represent it, and ... it reserves no freedom to itself to be one way or another way, [and] taken together, [these] constitute that utter absence of 'range' which is called the singularity, or singleness, of the percept" (7.625). For Peirce, the sinsign is a fact of perception, and it is the umbrella for the concepts of signal, symptom, and causa-tive sign. Still, Peirce is mostly concerned with its facticity as it produces the "two-sided consciousness" of secondness. It both em-bodies in a positive sense and sets up the possibility of logical classification by

virtue of the "peculiar kind" of qualisign that may carry a class name, but it also is effected by the imprecise generality of a secondness repetition that becomes the replica of a legisign.

There is an automatic janus-like quality to the sinsign looking to both the qualisign and the legisign and to both firstness and thirdness because, I suspect, the percept has these two kinds of definiteness. As with secondness, this is a problem of how one separates a particular and individual thing from the continuum of first potentiality. Linguistically this is the problem of slots and contrasts; and informationally, it is the problem of redundancy and contrasts. In order for a sign medium to be effective for signing, it is necessary that there be sufficient contrasts, articulations, and syntactic rules for the raw continuum to be utilized as sign material, and sufficient redundancy is necessary to compensate for noise in the channel medium. Too much analog continuum and there is no information; too much digital fragmentation and there is overload. Since the percept itself "contains no blank gaps" (7.625), it is the range of individuality and singularity in repetition that is highlighted as a replica of a legisign to produce a sinsign, embodying the peculiar kind of qualisign. The sinsign reflects the same pattern of factness that secondness does; it is resistant, physically brute, opposing, and has the quality *hic et nunc* in its very actual existence. Thus, Peirce identifies it as an Actisign, in the Lady Welby Letter, or "Objects which are Signs Experienced *hic et nunc*; such as any single word in any single sentence of a single paragraph of a single page of a single copy of a book" (8.347).

The sinsign as type

Peirce has even less to say about the sinsign individually than he does the qualisign, I suspect, because like secondness it is easy to comprehend, and his examples of the appearance of a word on a page, or the *the*'s on a page (4.537) are easy to grasp. His notion of the sinsign as a token of a type (4.537) is most easy for a literate, typographic culture to understand because the rules of the sign system need actual expression in individual occurrences. Their function as unique individuals is interconnected with the ruled generality of system; the general system finds its expression in the unique (and often repeated) occurrence in the proper systemic slot. Thus, the *langue* can exist only in the *parole*, and the map is not the territory. It represents a kind of

common-sensical notion of how signs function as expressions of general rules, but the tonal qualities of a token also have an effect—thus the problems of connotation, supra-linguistic markers, logical stereotypes, the multiple articulation of certain code systems, etc. And one may very well need the extra redundancies of repetition to compensate for those problems. All speakers of a language live with and surmount these problems daily, and it takes little reflection to understand a principle of phonemic or graphemic occurrence. Nor is it difficult, after some point in cognitive development, to understand the logical operations of class and representatives of class, even though most of us continue to make mistakes in all of them.

3.1.3. Legisign

The legisign is the source of generality, law, and thirdness; it is "the law that is a Sign ... usually established by men" (2.244). Like its cousin the qualisign, it exists as only a general type, but unlike the qualisign it has a definite identity, not a "great similarity" (8.334). The legisign's generality acts through its replica as a sinsign (2.249), and any factual existence will be as a token of its type. Peirce does not always call the legisign by that name; he sometimes calls it a symbol (3.360), for the generality of the legisign is the same as the generality of the symbol. In fact, every symbol is a legisign even though it is "inaccurate to call a replica of a legisign a symbol" (8.335).

Thus, much that can be said of the symbol can be said of the legisign if one remembers that the specific replica of a legisign, such as the word on a page, is not properly a symbol in its Peircean sense, nor are the conventions of Peircean symbols as rule operate as legisign laws. The legisign, then, "is related to its object only in consequence of a mental association, and depends upon a habit" (6.360). It is always general and abstract, will be conventional or arbitrary; it concerns all matters of judgment, and is "essential to reasoning" (3.363). Its value "is that it serves to make thought and conduct rational and enables us to predict the future" (4.448), for its "significative value ... consists in a regularity of association" (4.500). It is the legisign, as general word, general sign, or general symbol that fascinates Peirce enough to compare man and the sign and finally to conclude that man is, after all, a sign himself (7.583-93). Thought, to the extent it informs both us and the world, functions

with the regularity of association by habit and convention. Thus, Peirce calls the legisign, in the letter to Lady Welby, "Famisigns, familiar signs, which must be General, as General signs must be familiar or composed of Familiar signs" (8.347).

The legisign as type

As I indicated, Peirce spends as much time on the legisign as he does on the symbol seeing them as overlapping in their specific generalities. They both utilize a replica, which signifies "through the instance of its application", (2.246) but the legisign is more of a "Proper Name" (8.335) whereas the symbol is more of an assertion by law or rule.[27] The habitual disposition of the legisign more than likely will come from the more syntactic aspects of the sign system, at least the examples that Peirce gives as replicas have that kind of quality. It will not be a single object, but a type, whose individual occurrences will form its distribution (5.532). Like the symbol, "the entire intellectual purport of any symbol [or legisign] consists in the total of all general modes of rational conduct which ... would ensue upon the acceptance of the symbol" (5.438), but the chief difference is that acceptance of a legisign will consist more in the instance of its use than in the general effect of the word, for part of Peirce's point is that the instance of occurrence of a word, a legisign, or a symbol is that there is an effect upon the Mind—at least as an interpretant if not as a logical or rhetorical effect.

3.2. Peirce's second trichotomy: signs related to their objects

Peirce's second trichotomy is concerned with the secondness of signs and how they represent their objects; thus the icon, the index, and the symbol, are among the most frequently mentioned types of signs in Peirce. He uses those terms almost consistently from the first explorations of signs until the last of his writings, I suppose, because not only, as seconds, are they the most prevalent of signs and the most easily comprehended, but also because they are the most clear, and the most mentioned, examples of signs in the literature of signs. Generally, their emphasis is specifically upon the dyadic relationship of the sign to the object, and as Actisigns, all three signs are characterized by

some aspect of actual existences in relation to objects "experienced *hic et nunc*" (8.347), but their over-riding role as Actisigns is as objects themselves. Of course, the emphasis here is not on the role of signs but signs as objects themselves. Thus, the icon, being primarily a first sign of "mere" similarity (2.247), is thought of as an iconic object; the index, being primarily a second sign of actual contiguity, is thought of as "being really affected by that Object" (2.248); and the symbol, being primarily a third sign of law, is thought of "by association of general ideas" (2.249).

3.2.1. Icon

If nothing else signaled the importance of the icon, the history of philosophical examination of signing would surely make the icon a familiar term, for the historical attempt has been to define signs on the basis of their relations to objects, as either motivated or conventional. Moreover, such attention to object relatedness certainly demands the concept of motivation through similarity, and one of the most fundamental ways of reacting to experience is to look for similarities and differences, which are, as Peirce argues, the basis of all classification. The philosophical notion of essence, the shared qualities of classification, the need to pattern the multiplicities of experience, etc all require the groupings of things by similarities and differences as a basic and general pattern of cognition. Moreover for Peirce, the very nature of firstness, as an epistemological state, is to pattern the continuum of vividness into a network of similarities and differences that will become the raw material of iconic signs, but Peirce's sense of similarity (and difference) turns out to be quite visual and perceptual. He tends to see the icon as a visual presentation of a relation which does not assert existence, but the capacity of icons to deal with character and classification need not be only visual. They can cluster any experience of similarity or difference, visual or otherwise, and utilize that likeness to produce a first of signs.

The icon as type

The icon is a first in many respects, not only as first of sign relations to objects, but also as a first method of thinking similar to prescission.

The extrapolation of quality, mark, or character into similarity is the whole process of generation of *likenesses* so that classification, naming, modeling, and judging can take place. In fact, iconic reasoning is fundamental to Peirce's concept of logic or reasoning, "for a great distinguishing property of the icon is that by the direction observation of it other truths concerning its object can be discovered than those which suffice to determine its construction" (2.279). Like the metaphor, it uses the network of similarities to make extension of categories and class to discover new information—usually about signs, but sometimes about the objects represented.

The icon goes beyond the pattern of constructing similarities to engender the basic features of form, predication, judgment, and inference, for "deduction consists in constructing an icon or diagram the relations of whose parts shall present a complete analogy with those of the parts of the object of reasoning, of experimenting upon this image in the imagination, and of observing the result so as to discover unnoticed and hidden relations among the parts" (3.363). Thus, the icon is a prescissive tool for the abductive discovery (2.279), and without it, "abstract statements are valueless in reasoning except so far as they aid us to construct diagrams" (4.127), for "all necessary reasoning without exception is diagrammatic" (5.162) and "diagrammatic reasoning is the only fertile reasoning" (4.536).

In fact, the insistent visual emphasis that runs through Peirce is derived from his attention to, and belief in, the function of the icon. From the very first, Peirce identifies the icon, despite the prescissive limitations of its firstness, with mathematical abstractions, algebraic formulae, geometrical generalizations, representations of logical functions, ordinary or scientific observations, and all forms of thinking and communication.

> The only way of directly communicating an idea is by means of an icon; and every indirect method of communicating an idea must depend for its establishment upon the use of an icon. Hence, *every assertion must contain an icon or set of icons, or else must contain signs whose meaning is only explicable by icons*. [my emphasis] The idea which the set of icons (or the equivalent of a set of icons) contained in an assertion signifies may be termed the *predicate* of the assertion. (2.278)

The power of the icon lies in its ability to portray similarities to its

object, for it "denotes merely by virtue of characters of its own" (2.247) which are "likenesses" (1.558). It is the action of a verb, or the verb-ing as I will call it, the naming of class, which gives quality a local habitation and a name (3.459), and without it classificatory powers, we would be silent.

But what is most interesting about the icon, despite its state as a firstness of sign, is its fundamentally dyadic nature, not just in comparison, similarity, or contrast, but its very epistemological nature is binary! For example, when Peirce sets up the twelve icons of algebra in "The Philosophy of Notation", he describes the icon essentially as a binary gate in that it "is true if a is false or if b is true, but is false if a is true while b is false" (3.375). And when he concretely represent iconic thinking in "The Logic of Quantity", his example of the ink blot and the problems of "the immediate neighborhood" of boundaries (4.127) in dyadic contrasts is almost a pure example of binary reasoning both in potential and limitations, for the contrastive quality of black and white and the either/or gates of the binary create the fundamental problem of how one characterizes a continuum by digital signs, symbolic or nonsymbolic. Because icons are primarily firsts in their secondness, they tend to participate in the two-sided consciousness, but more in the positive way of qualisigns than the contrastive way of sinsigns; that is, characters are positively noted and marked whereas a sinsign exists as a binary occurrence, or non-occurrence to a legisign rule. Moreover, I suspect the nature of the character may have some relation to the kind of rule articulated by a legisign; that is, signs will be media specific, and that media specificity may lead to other kinds of character concerns such as shape, regularity, periodicity, visuality, or the lack thereof.

The binary quality of classification is that it at least implies the other of not only the perceiving consciousness, but the Otherness of boundary. And since icons tend to cluster, or "colligate" (2.442) to use Peirce's term, their infinite series of colligation, by cluster and contrast of the "immediate neighborhood", lead to the very process of "abstract reasoning" not as "an intuition", as Peirce points out, but as "the very grammar of thought" (4.127) if one understands the fundamental signific nature of the dyadic icon. Like the binary sequences of a computer, the imputed, contrastive boundaries of the icon, the sequence and form of the icon, the syntax of colligated icons, and the meditation of those colligations of icons allows the production of new icons (2.443). Icons are the binary gates

operating to produce the originality of form; and "the chief need for the icons is in order to show *the Forms of the synthesis of the elements of thought* [my emphasis]" (4.544).

3.2.2. Index

In the "Division of Signs", Peirce describes the index as "a sign which refers to the Object it denotes by virtue of being really affected by that Object" (2.248). Although he suggests something of the causative nature in an index, he also says it involves an "Icon of a peculiar kind"[28] with an "actual modification of it by the object". In fact, one could argue that the index, along with the icon and the symbol, is the most productive of sign categories. Peirce certainly refers to them often and consistently as though they were the clearest and most easily understood of his nine types. The index like the icon is a pattern of secondness, but it is clearly "a Second of Secondness", to use that cloudy Peircean phrase, because the relation of the index to sign and object is one of actual existence. The index itself tends to be an existing, perceptual sign denoting actual existing events, or objects. It is the other sign of "non-symbolic thought (6.338), and it never describes (3.419), but represents by forceful and dynamic indication. The index is "essentially more complicated than an Icon" (2.314), for it primarily expresses *hecceity* and thisness (3.434). "The meanings of words ordinarily depend upon our tendencies to weld together qualities and our aptitudes to see resemblances, or, to use the received phrase, upon associations by *similarity*; while experience is bound together, and only recognizable, by forces acting upon us, or, to use an even worse chosen technical term, by means of associations by *contiguity*" (3.419).

For Peirce, the notion of thisness, of *hic et nunc*, is more important to the index than causation, for "nothing but dynamical signs can distinguish [reality] from fiction" through "the indices of the real world" (2.337). It is not causation that Peirce sees in the index, but rather Fact, which for him is a less invested notion than causation, for that would entail a purity of relation, and "it would be difficult, if not impossible, to instance an absolutely pure index, or to find any sign absolutely devoid of the indexical quality" (2.306). If contiguity implies necessary causality, it is the causality of signs, not of objects, for "an *index* is a sign which would, at once, lose the character

which makes it a sign if its object where removed, but would not lose that character if there were no interpretant" (2.304). Causality is, I suspect, more of the nature of an interpretant, than a brute fact, and if contiguity is implies anything, it implies the nature of symptoms, for indices are "signs more or less analogous to symptoms" (6.338). The mythos of causality, like Hobbes argued, is only *post hoc* reasoning if it is confused with symptoms. Still, indices are marked by three specific characteristics: "first, ... they have no significant resemblance to their objects; second ... they refer to individuals, single units, single collections of units, or single continua; third ... they direct the attention to their objects by blind compulsion" (2.306).

The index as type

The index as a second is a reactive sign, a dynamic sign, of existence, operating by brute action to produce an experiential sense of Otherness (7.528) and participating fully in the two-sided consciousness of secondness. Its facticity and its thisness, as either other, force, or symptomatic contiguity, make it a fundamental sign to semiosis, and it is not accidental that Peirce would place it at the center of his physical representation of the types of signs. The index is the doorway to understanding of the communication of others, for "some indices are more or less detailed directions for what the hearer [or receiver] is to do in order to place himself in direct experiential or other connection with the thing meant" (2.288). The pointing finger, one of Peirce's clearest examples of an index, directs our attention to the objects of reference and experience. It is the instance of recognition in which "we *virtually resolve* upon a certain occasion to act as if certain imagined circumstances were perceived. This act which amounts to such a resolve, is a peculiar act of the will whereby we cause an image, or *icon*, to be associated, in a peculiarly strenuous way, with an object represented in an index" (2.435). This strenuous recognition is the compulsion of the *hic et nunc* that provides us with commonly signed experience; "hence it is requisite that there should be a kind of sign which shall act dynamically upon the hearer's attention and direct it to a special object or occasion. Such a sign I call an *Index*" (2.336).

The role of the index is referential as in proper names, designations, pronominal pointings, weathercocks, foot prints, legends on

maps, symptoms of disease, letters on diagrams, etc, but it is also a reference of a peculiar kind in that "the index asserts nothing; it only says 'There!' It takes hold of our eyes, as it were, and forcibly directs them to a particular object, and there it stops" (3.361). However, indices also "involve a sort of Icon, although it will be an Icon of a peculiar kind" not "the mere resemblance of its Object", but "the actual modification of it by the Object" (2.248). Thus, by perceptive force, it invites the world of objects to be referenced so that users of signs can have a common world of experience, not just isolated secondness. But, the irony of this commonality is that Indices are primarily individuals; so how can they perform this function?

Peirce, of course, uses indices as the individual subjects, particular or universal, of propositions that find their replica expression in the symbol, and the replica of a symbol carries the significative force of the individual index. Thus, "the value of the index is that it assures us of positive fact. The value of the symbol is that it serves to make thought and conduct rational and enables us to predict the future (4.448). The two are intertwined for assertion's sake, for

> the significative value of a symbol consists in a regularity of association, while the significative force of an index consists in an existential fact which connects it with its object, so that the identity of the Index consists in an existential fact or thing. When symbols, such as words, are used to construct an assertion, this association relates to something real. It must not only profess to do so, but must really do so; otherwise it could not be true; and still less, false. (4.500)

That last phrase should ring a note of curiosity, for Peirce is not detailing a typical correspondence theory of truth in assertion, and it obvious that fiction, certainly of a realistic mode and probably of other mode as well, will utilize indices. Thus, there is an apparent anomaly here: if the index is connected directly with its object as an existent "character which it could not have if its object did not exist" (5.73), and if part of the use of the index is to distinguish reality from fiction (2.337), how then can the index have a significative force so described as not being "true, and still less false?"

I think the answer to the anomaly lies is Peirce's understanding of the role of description in the index. It does not describe (3.361); it

does not assert; rather it provides for descriptions by iconic characters and qualities, which may potentially be "untrue" and assertions by symbolic propositions, which may be true or false.

> The actual world cannot be distinguished from a world of imagination by any description. .... This distinction can only be made in some way such as this. Indices are also required to show in what manner other signs are connected together. With these two kinds of signs [icons and indices] alone any proposition can be expressed, but it cannot be reasoned upon, for reasoning consists in the observation that where certain relations subsist others are found. (3.363)

Thus, realistic fiction functions as an iconic index, and logical assertion functions as a symbolic index in value and force. The real role of the index in sharing experience is that of framing and mapping, giving a series of indexical coordinates, by which a receiver of a sign cluster can understand and recognize the sense of experience.

When an author describes a fictional day of rain, "the index is all whereby he distinguishes that day of rain, as it placed in his experience" (2.435), and if he is effective, we "recognize" the cluster of indices by their significative force, whether it is actually raining or not. Ultimately, to try hold the index too closely to a correspondence theory of truth is like reading contiguity as causation, it literally is a kind of *post hoc* reasoning, a verification principle gone made, for one must remember that the "Index can represent itself, but it is impossible for an Index to be its own Interpretant" (2.311). Since an index contains an icon, perhaps of a peculiar kind, the contained icon may name qualities which are, after all, fictional. The subjects of that particular proposition may lack existential import, in favor of some more usable kind of import, third or first; they may be indices of possibilities. Only the interpretant shows exactly whether the modification by the object (2.248) is one of existence or reference. One must remember that Peirce does allow that indices may be degenerate, holding toward the firstness of quality or mere association without contiguity. In fact, degeneracy may be the very nature of the indexical reference and secondness, for "if the Secondness is an existential relation, the Index is genuine. If the Secondness is a reference, the Index is degenerate" (2.283).

Existential relations have a specific context for Peirce—one of

secondness and one of Fact. The difference between a genuine secondness of Fact and a mere reference is sufficient to deal with realistic fictions, but as with most logicians, what concerns Peirce, as his discussions of logic, inference, and probabilistic arguments suggest, is how the index is a sign of epistemological capacity. The very thrust of secondness, as Fact or brute resistance, is that the universe we live in is knowable, at least in approximation, and intelligible, at least in signification. The index, at least as a fundamental structure in propositional logic, is the doorway to knowledge, either in the psychological sense of shared communication or in the more formal senses of argument or discovery, but an index, as a pure index, is not only difficult "to instance", it also can have an epistemological function only in relation to the interpretative mode of thirdness; so the index ultimately connects with the rheme and dicisign to produce assertion, argument, and epistemological significance.

3.2.3. Symbol

Of course, the term "symbol" is surely the most common term dealing with signs that Peirce uses; yet he does use it in somewhat of an unusual way. "Symbol" has the common association of "conventional", but for Peirce this notion of "convention" becomes something "new and wider" (3.46). It is the specific pattern of thirdness identified with law, habit, and rules, all of which mean something more than "arbitrarily" or "purely conventional" (4.448). In the "Elements of Logic", he gives a short etymological lesson on the word *symbol*, saying generally

> I do not think the signification ... of a conventional sign, or one depending upon habit (acquired or inborn), is so much a new meaning as a return to the original meaning. Etymologically, it should mean a thing thrown together, just as '*embolum*' is a thing thrown into something, a bolt, and '*parabolum*' is a thing thrown besides, collateral security, and '*hypobolum*' is a thing thrown underneath, an antenuptial gift. (2.297)

He then reminds us that the Greeks used the term to mean generally a "contract", but that it was extended to include all sorts of signals and substitutes. And as an ordinary word, Peirce would emphasize that

it is "*applicable to whatever may be found to realize the idea connected with the word*" (2.298), but the key to his usage appears in the phrase "to realize the idea connected with the word", for this is clearly the Peircean idea of thirdness and representation, the function of the sign. The symbol does not "identify things", rather "it denotes a kind of thing", and it grows (2.298-302). What fascinates Peirce about the conventionality of the symbol is not its arbitrariness, but its ability to realize a rule or habit, the logical operations of its generality, and its epistemological dynamism. "For if the meaning of a symbol consists in how it might cause us to act, it is plain that the 'how' cannot refer to the description of mechanical notions that it might cause, but must intend to refer to a description of the action as having this or that aim" (5.135).

The category of thirdness is the category of habit or law, and this concept shapes both Peirce's understanding and use of symbols, for they are the essential example of thirdness as representation. They are a "mental association" (1.372), "a mental act" (2.438), and "a law, or regularity of the future" (2.293). They govern, or determine their objects, but they "must denote [only] an individual and must *signify* a character" (2.293). That is, the symbol is "a sign naturally fit to declare that the set of objects which is denoted by whatever set of indices may be in certain ways attached to it is represented by an icon associated with it" (2.295). What makes the symbol "naturally fit" is the role of the interpretant, for it is a general sign "which would lose the character which renders it a sign if there was no interpretant" (2.304). In fact, the role of the interpretant for the symbol is one of clearest examples of representation, for it is quite normal for most of us to think of "symbols" as needing "interpretation", but again, for most of us, we think of "interpretation" as a kind of mental aside about the "hidden meaning" as a usable one, or as a kind of mental translation of rules that someone somehow somewhen established.

Peirce certinally means something more complex than "hidden meaning" or "mental asides", as his doctrine of signs demonstrates. First of all, the rules are not arbitrary, but fundamental to all cognition, perhaps fundamental to all life. Second, the meanings are not "hidden", but "indirect ... depending on the association of ideas. Hence, a sign directly exhibiting the mode of relation is required" (4.75). The interpretation and the interpretant are aspects of semiosis characteristic of signs finding their unity in perceptual

judgments (5.119) and new ideas. The value of the symbol is that it is a tool which "serves to make thoughts and conduct rational and enables us to predict the future" (4.448). Finally, the "mental translation" is not a psychological act, although it may be a conscious one, for although the "force of symbols ... [is] their power of appealing to a mind ... it would be a mistake, in my opinion, to hold the last to be a matter of psychology" (4.116). Thus, Peirce makes a clear distinction between the act of the interpretant and the interpreter, for "the being of a symbol consists in the real fact that something surely will be experienced if certain conditions be satisfied. Namely it will influence the thought and conduct of its interpreter" (4.447).

The juxtaposition of interpretant to interpreter is no homophonic accident, for the interpreter is a user of interpretants sometimes carried in human mentality, but always carried by the sign. Still, Peirce is aware of the psychological problem of the role of symbols in cognition, for he knows:

> Symbols afford the means of thinking about thoughts in ways in which we could not otherwise think of them. They enable us, for example, to create Abstractions, without which we should lack a great engine of discovery. These enable us to count, they teach us that collections are individuals, and in many respects, they are the very warp of reason. But ... they do no enable us to add to our knowledge ... unless by means of a definite performed habit. (4.531)

The "definite performed habit" is, of course, the source of Peirce's Pragmaticism, but it is something which is embodied in consciousness and the issue of how words (of consciousness) have physical effect. The solution to the epistemological problems here is the fact that "merely ... one symbol would justify another" (5.106). Reality as we think it is a "warp of reason", and "all thinking is dialogic in form. Yourself of one instant appeals to your deeper self for his assent. Consequently, all thinking is conducted in signs" (6.338). It is the self appealing to the deeper self that produces a sense of self, or the continuity which is Peirce calls the "Man-Sign".

As Peirce puts it some what differently, "Every state of consciousness is an inference; so that life is but a sequence of inferences or a train of thought" (6.583). Moreover, it is this conflation of agent and action which leads Peirce to consider the differences not

only in argument and argumentation but also in human consciousness and thought, for the chief difference between a man and a word is that "a man has consciousness; a word has not" (6.585). Consciousness is a matter of feeling, and "the essence of a symbol is formal, not material" (6.593). It is a matter of perspective. From one perspective, the interpreter, as person, is a unity of consciousness, "for personality lies in the unity of the *I think*", but unlike Descartes, the unity of consciousness and personality lies in a "unity of symbolization—the unity of consistency—and belongs to every symbol" (6.593). But from another perspective, the interpretant is only a particular kind of relation, "whose special significance or fitness to represent what it does represent lies in nothing but the fact of there being a habit or disposition, or other effective rule that it will be so interpreted" (4.447). This difference between interpreter and interpretant will become increasingly crucial as Peirce come to examine the thirdness of signs.

The symbol as type

When Peirce discusses the symbol as a Type, he emphasizes both its thirdness of law and its secondness as an actual sign. Its regularity is too general to be effective, for the "symbol, in itself, is a mere dream; it does not show what it is talking about. It needs to be connected with its object. For this purpose an index is indispensable. No other kind of sign will answer the purpose" (4.56). The force of the symbol is the generality of thirdness, but it needs secondness to invest it with application. Ultimately the symbol is a general sign, "a Repre-sentamen whose Representative character consists precisely in its being a rule that will determine its Interpretant" (2.292) and whose link to secondness lies in the power of the index to connect it to objects. Thus, the symbol is "naturally fit to declare that the set of objects which is denoted by whatever set of indices may be in certain ways attached to it is represented by an Icon associated with it" (2.295). Like other thirds, the symbol has two degrees of degeneracy and there are three kinds of symbols: iconic, indexical, and symbolic. The first kinds "directly determine only their grounds;" the second "independently determine their objects;" and the third "independently determine their *interpretants* and thus the minds to which they appeal" (1.372). The emphasis in the icon is upon the

character of an indexical object, and thus the symbol becomes a model of the propositional argument with the object being the subject and the termed character becoming the predicate of that argumentative proposition (1.372).

The thirdness of the symbol finds its expression, both semiotically and epistemologically, in the replica of the index and its associated icons. This tri-relative influence is the means by which symbols find their existential objects, their pattern of habit, and their potentiality for growth. So Peirce argues that

> There are two ways in which a Symbol may have a real Existential Thing as its real Object. First, the thing may conform to it, whether accidentally or by virtue of the Symbol having the virtue of growing habit, and secondly, by the Symbol having an Index as a part of itself. But the immediate object of a symbol can only be a symbol and if it has in its own nature another kind of object, this must be by an endless series. (2.293n)

The thirdness of the symbol's representation finds its real expression as secondness through an index, for indices provide the "dynamical connection" of mind with object (2.299) in Peirce calls the "Singular Symbol" (2.293).

But also, the symbol's thirdness finds expression as a firstness through the icon (embodied in the Index), for the icon is an "Abstract Symbol whose only Object is a character" (2.293). The iconic qualities of the symbol are the expression of the sign's potentiality to isolate, by prescission, the characteristics which will be the predicate of propositions, but the indexical qualities of the symbol tend to anchor it in existent reality and to provide the subjects of propositions. This would seem to be simply a rehash of the Aristotlean distinction between a motivated and conventional signs since it is this double relation (of even degeneracy) that expresses both the denotative breadth and the connotative depth of a symbol's information and potential information (1.569, 2.418, and 6.119). Also it is these "dyadic relations of logical breadth and depth" which have informed Peirce's logic of relatives.

> But these take their origin in the triadic relation between a sign, its object, and its interpretant sign; and furthermore, the distinction appears as a dichotomy owing to the limitation of the

> field of thought, which forgets that concepts grow, and that there is a third respect in which they may differ, depending on the state of knowledge, or amount of information. (6.608)

Therefore, there are three problems for the symbol. One, even with existential indices there is a separation between sign and object. Two, even with existential force there is still the fracture between the immediate object and the dynamic object. And three, given the growing habit of icons, there is the problem of how habitual growth can take place. Peirce answers these problems in two ways. First, the symbol, as a part of the process of perceptual judgment and assertions,

> represents a compulsion which experience, meaning the course of life, brings upon the deliverer to attach the predicate to the subjects as a sign of them in a particular way. .... It is, therefore, a permanent conditional force, or law. The deliverer thus requires a kind of sign which shall signify a law that to objects of indices an icon appertains as a sign of them in a given way. Such a sign has been called a symbol. (3.435)

So the habituating power of symbols has "a force" in and of its law, but I also suspect the symbol can lead one to the operations of prescission particularly as qualia are generated into iconic and indexical characters which will grow with the symbol.

Secondly, symbols do grow. As Peirce says,

> They come into being by development out of other signs, particularly icons or from mixed signs partaking of the nature of indices and symbols. We think only in signs. These mental signs are of a mixed nature; the symbol-parts of them are called concepts. If a man makes a new symbol; it is by thoughts involving concepts. So it is only out of symbols that a new symbol can grow. (2.302)

It is the symbol which represents the Mediating third between the absolute first of meaningless potential and absolute secondness of brute force, and the regularity of the symbol as a representational assertion of thought that will produce the Habit of Law. There may be "an endless series" of signs, but there is sufficient regularity in that "the mind [too] is a sign developing according to the laws of

inference" (5.313). We have only to try to understand it!

3.3. Peirce's third trichotomy: signs related to their interpretants

The third trichotomy is probably the most essential one for semiotic studies, for it details how the sign merges the ideal world of potential with the real world of existences. The third trichotomy is Famisigns, "General Signs or Familiar Signs" (8.347)—the trichotomy of rule, law, and logic of the sign. It is "the triad of reasoning" (1.354), as Peirce called it, and from his viewpoint, it is the world that we, as signs and sign users, inhabit. If it were not for thirds and interpretants, the Synchistic Universe would never have evolved from simple and yet devastating Tychistic chance; there would be no regularity, and all of this would not exist. However, much of the weight of this trichotomy, because it is "a third class of the third class of Triads" (1.515), is carried more by Peirce's notion of interpretants than it is by this trichotomy of sign types; so much so that he begins to speak of Ten trichotomies of interpretants to Lady Welby.

All of the third trichotomy of signs, the rheme (term), dicent (proposition), and argument, are, even in their very names, given a logical function and a logical analysis. It is obvious that Peirce sees them as important to any logical analysis since his logical critiques were probably the origin of his interest in sign theory, but still their real semiotic function is to provide the interpretant's context for other signs. In fact, at least once when Peirce discusses the symbol, he says it "divides by Trichotomy into the Term, the Proposition, and the Argument (5.76) as though these three were only interpretant functions of the symbol. And so they are from a logical point of view, but when Peirce creates the "Division of Signs", the actual signifying function of these three is clearly established not just as interpretants, but as types and classes of signs.

The tension I am suggesting between logic and semeiotic is probably something Peirce would not recognize, and perhaps I should not stress it too strongly, for to separate them is as mistaken as to conflate them. But the trichotomies of interpretants do suggest some of that tension, for, given the self-reflexiveness of thirdness, there properly are firsts, Seconds, and thirds of interpretants. Apparently the sign goes round because the sign comes round, but in some sense, the sign function and logical function are not identical. They are

slightly different emphases of the same structure, the sign, and logic leans toward the role of proofs in assertions whereas the semeiotic leans toward the role of relation in the assertions and signs. To my lights (and I will not attribute the same to Peirce's lights), the semeiotic is more inclusive than logic. Nevertheless, the concern for the third trichotomy of signs is necessarily for its very thirdness, which will consider both the logical quality of interpretants and their more general relational qualities.

3.3.1. Rheme

The *Rheme*, as the alternate name *Term* suggests, is, for Peirce, primarily a phrase from logic, and despite its use in the "Division of Signs", its origin is in logic. It is basically a blank in the propositional form, properly a predicate, to be filled with a sign of firstness, an embodied and characterized *Qualia* as class name or proper name. For Peirce the logician, it is a most important sign because it is the fundamental structure of the logical proposition, and much of his discussion of it is pure logical theory and analysis.

But the rheme is also an important sign for Peirce as evolving semiotician, for he recognizes the qualisign function of the rheme in creating the verb-ing of classification and predication. Although he fairly consistently uses the phrase *rheme*, or *term*, he had some questions about its use in semiotic analysis. In the "Apology for Pragmaticism", he identifies this trichotomy of the rheme, the proposition, and the argument as the "familiar logical triplet" and says, "in order to make this *a division for all signs* [my emphasis], the first two members have to be much widened" (4.538). He then proceeds to introduce three alternate terms for this trichotomy: the *Seme* as "anything which serves for any purpose as a substitute for an object of which it is, in some sense, a representative or Sign;" the *Pheme* as "a Sign which is equivalent to a grammatical sentence;" and a *Delome* as "a Sign which has the Form of tending to act upon the Interpreter through his own self-control, representing a process of change in thoughts or signs" (4.538).

Apparently the rheme, like its firstness cousin the qualisign, has two operations: one of potentiality and one of classification. The model for the rheme is the monadic bond of chemical valence; that is, "A rhema is somewhat closely analogous to a chemical atom or

radicle with unsaturated bonds" (3.421). It is characterized by monadic blanks to be filled, a pattern which Peirce continues when he discusses terms in his Existential Graphs (4.327, 4.403, 4.404, 4.438, 4.441, etc) and with which he explains rhemes as propositional functions. Thus, there are two senses to the "blankness" of the rheme. One sense is that of the blank of logical analytics, by which a term is analyzed or not (4.474.2). The second sense is that of the blank of suchness and potentiality characterized by a qualisign's firstness, but unlike the qualisign, which must be embodied to be a sign (2.244), the rheme is already embodied in the full state of thirdness as a sign—at least in its form as a predicate. It has great potential—so much so that Peirce details some twenty-six different affirmative forms of it (4.453). But more importantly, as the alternative name Seme suggests, it is necessary to realize that all rhemes, although they usually function as predicates, are not all semes, which need not be logical predicates, but can be simply substitutions, of "a peculiar kind", no doubt, because although embodied in a logical third, it connects to a "suchness" which is more of the potentiality of firstness than the regularity of thirdness.[29]

To keep only the rheme is, I think, probably too verbo-centric and tends to make the interpretant just a logical interpretant. And to keep the rheme as only a logical structure is to deify human logic, and to some extent, the whole point of the semiotic function of the seme is to characterize the process of substitution. Everything as a sign may have a logic, but it is not necessarily logical in the normal sense of that term; the seme, like the qualisign, is at the margin of prescission, but the rheme has already be hypostatically abstracted. The rheme must, by traditional name, function in hypostatic argument, but the seme is "anything which serves for any purpose as a substitute for an object of which it is, in some sense, a representative or a Sign" (4.538). Apparently, the seme emphasizes the potentiality of being a representation, and in the next sentence Peirce attributes that the "logical Term, which is a class-name, is a Seme", implying, of course, that the rheme is a sub-category of the Seme.

The rheme as type

Reflecting this tension, Peirce actually gives two different definitions of the rheme. In the "Proposed Work in Logic", the definition is

tied to the trichotomy of argumentative interpretants, with the term, this time, being "a sign which leaves its Objects, and *a fortiori* its Interpretant, to be what it may" (2.95). But in the "Division of Signs", the definition is, of course, more semiotic: "A *Rheme* is a Sign, which, for its Interpretant, is a Sign of qualitative Possibility, that is, is understood as representing such and such a kind of possible object. Any Rheme, perhaps, will afford some information; but it is not interpreted as doing so" (2.350). Although related, these two definitions illustrate two slightly different functions of the rheme in the names chosen and the details emphasized. The rheme can be both a logical function, for which I will the word *term*, and a semiotic function, for which I will use the word *seme*.

Logically, the rheme as term is "a direct constituent of a proposition" (2.328) which "has no assertoric element" (2.340). It is "a proposition with the subjects deprived of their forcefulness;" it is "eviscerated argumentation" (2.344) whose evisceration is most clearly shown by the unanalyzed blankness of the propositional form being either relative or non-relative (3.420). As with its chemical bond analog, it is a blank to be filled. "The rheme, or predicate [is] ... a blank form of proposition which might have resulted by striking out certain parts of a proposition, and leaving a blank in place of each" (4.560). But even then, as in the Existential Graphs, the rheme as term "is, of course, not a proposition" (4.339) itself, but it is a constituent, a verb-ing predicate (2.379) characteristic of the qualisign. A proposition "only conveys its signification by exciting in the mind some image ... like the Firstness meant. The predicate is necessarily a Rheme" (2.317). Because of the logical syntax of the syllogistic proposition, the term will be either distributed or undistributed (2.530). If it is a "substantially" an antecedent, it will be distributed, and if a consequent, it will be undistributed (2.530), for "a term, or rheme, is like 0/0, in itself indeterminate in value, yet having one or the other of two values in each particular case" (4.327). Like all firsts, the rheme as term finds its logical potentiality expressed in the secondness of asserted existence, and it is not a proposition until the blanks are filled with rhemes as predicates and dicisigns as subjects.

The lack of "assertoric element", the blank of a predicate's subject, and the form of the proposition is filled by secondness and further thirdness to make a logical assertion, thus becoming a matter of extension and comprehension, of denotation and connotation, of distinctness and clearness, or Peirce calls it, of breadth and depth

(2.391-94). When terms are informed into propositions of thirdness (2.419), their logical functions operate on the basis of three binary tensions between breadth and depth as essential, substantial, or informed terms.[30] First, the essential breadth of a term becomes the "really conceivable qualities predicated;" the essential depth becomes "those real things of which ... a term is predicable" (2.411-12). Second, the "*substantial depth* is the real concrete form which belongs to ... a term;" and the "*substantial breadth* is the aggregate of real substances of which alone a term is predicable" (2.414). And third, the informed breadth of a term "is all the real things of which it is predicable ... in a supposed state of information" (2.407), and the informed depth of a term is "all the real characters (in contradistinction to mere names) in a supposed state of information" (2.408). Out of this "supposed state of information", which Peirce calls the Area (2.419), the terms geometrically find their distribution, and that "area of information" is clearly a process of thirdness operating as a logic of interpretants, from which will come all the logical processes of Generalization, Induction, Abstraction, Specification, Supposition, Determination, Restriction, and Descent (2.422).

But as always, this enormous structure of logical operations is based on the blank potentiality of the rheme. It is its blank potentiality as seme which has to be emphasized in the semiotic function, for the blank slot is not just a logical binary slot to be filled or not filled. It is an analog slot for the potentiality of objects and interpretants representing for and to each other, and it can have the infinite number of degrees of vividness that Peirce associates with firstness (7.497). By prescission, a blank can be just that—a non-existent of a peculiar kind, for negation, especially of a predicate rheme, "is not a term of logic at all, but is prelogical. That is to say, it is one of those ideas which must have been *fully developed and mastered before the idea of investigating the legitimacy of reasonings* [my emphasis]" (2.379) could have taken place. Semiotically, the blank of the rhematic structure is simply that "fully developed and mastered idea", for it is a firstness of prescission that the seme carries into signification (2.317). The seme is "the zero of bare possibility, by evolutionary logic, [which] leapt into the *unit* of quality" (6.220).

Thus as Peirce writes to Lady Welby, "A rheme [as seme] is defined as a sign which is represented in its signified interpretant as *if it were* a character or a mark" (8.337), for what is at issue is the

fact that "*the act of assertion is not a pure act of signification.* [my emphasis]" Rather "it is an exhibition of the fact that one subjects oneself to the penalties visited on a liar if the proposition asserted is not true" (8.337).[31] If that is so, then the seme is the semiotic potentiality and possibility than can be utilized as a logical term. His caveat that "the act of assertion is *not* [my emphasis] a pure act of signification" (8.337) seems to suggest that logical functions are a kind of social game which are a subset of a larger semiotic set. The argument then becomes semiotically not a sign of a conclusion, "but *as if* it were a sign of the Interpretant", and the dicent semiotically becomes "a sign represented ... *as if it were* in a Real Relation to its Object. (Or as being so, if it is asserted.)" (8.337) The logical function and the needs of ratiocination may have little patience with the approximate *may-be*'s of semiosis, but we must remember that

> We start, then with nothing, pure zero. But this is not the nothing of negation. For not means *other than*, and *other* is merely a synonym of the ordinal numeral *second*. .... The present pure zero is prior to every first. .... It is the germinal nothing, in which the whole universe is involved or foreshadowed. As such it is absolutely undefined and unlimited possibility—boundless possibility. There is no compulsion and no law. It is boundless freedom. (6.217)

So the rheme, as seme or term, is as janus-like as the qualisign, and if logic uses it, which of course it should and will, it will also have to remember that there is a prior process of semiosis that has provided the forms and substances of its operations.

3.3.2. Proposition

The proposition, or the dicisign, has an ambivalence somewhat similar to the rheme in that Peirce's interest in it is originally logical and only develops semiotically. Yet the dicisign, unlike the rheme, has the power of existential secondness to give it even more of a logical force. The inbuilt indexical qualities of the dicisign are the force that makes it immediately usable in the assertion of the proposition and also what makes it of immediate interest to logical analysis. With the rheme and the argument, the proposition, in relation to the icon, index, and

symbol, forms the foundation of the "triad in reasoning" that will lead to the analysis of "deduction, induction, [and] hypothesis" (1.354). But is also is one of those "first two members" of "the familiar logical triplet" that "have to be much widened" (4.538), the dicisign as proposition will have a semiotic alter-ego called the Pheme, "a Sign which is equivalence to a grammatical sentence ... intended to have some sort of compulsive effect on the Interpreter of it" (4.538). Built upon the simple sign of the seme, the dicisign as pheme functions "as to the Nature of the Influence of the Sign" in terms of antecedent and consequent (8.373). Thus, it will have a more narrow logical dimension concerned with the operations of propositional assertion and a more inclusive semiotic dimension concerned with the general influence of the sign.

Logically, the dicisign is dyadic and modeled by the same propositional blanks as the rheme except it requires two blanks to reflect the dyadic relation (3.461), and it will be identified with the subject of the proposition (3.319). If the term is best seen as a "monad ... embodied in the signification of the verb", the dicisign is a dyad which "introduced a radically new sort of element, the subject, which first shows itself in the proposition" (1.471). But the proposition is "not all strictly and merely dyadic", for dyadic propositions "have two subjects. One of these is active, or existentially prior, in its relations to the dyad, while the other is passive, or existentially posterior" (4.471). Also, although the proposition's nature is basically dyadic secondness, the proposition, as a third, "is also a general description, but it differs from the term it that it purports to be in a real relation to the fact, to be really determined by it; thus, a proposition can only be formed of the conjunction of a name and an index" (1.372). This conjunction will be the form of the sentence which "signifies that an eternal fitness, or truth, a permanent conditional force, or law attaches certain hecceities to certain parts of an idea" (3.461). The dicisign as proposition is particularly concerned with the "actual Syntax" (2.319) in that "every proposition contains a Subject and Predicate, the former representing (as being) an Index" (2.316).

It is the dyadic quality of the propositional form and the existential qualities of its indexical mode that gives the dicisign its particular logical capacity. It is subject to the same binary operations as the rheme in terms of informational area, but it is primarily identified with breadth, or denotation. (2.407-22) The key to the dicisign as

proposition is that it is assertoric at least of an existential relation, for its conjunction represents a unity of manifold impressions in that: "The unity to which the understanding reduces impression is the unity of the proposition. This unity consists in the connection of the predicate with the subject; and therefore, that which is implied in the copula, or the conception of being, is that which completes the work of conception of reducing the manifold to unity" (1.548). And most importantly, this unity of the proposition is subject to determination of truth or falsehood, for "the readiest characteristic test showing whether a sign is a Dicisign or not is that a Dicisign is either true of false, but does not directly furnish reasons for it being so" (1.310). It is this ability of the dicisign, or proposition, to be seen as true or false, to be judged as to the unity it offers for manifold impressions, or to be the semiotic vector for the existential index[32] that are the sources of its logical power as syllogistic reasoning, categorical propositions, symbolic logic, and the inductive method demonstrate.

The dicisign, or proposition, is epistemologically the avenue to knowledge. Its dyadic nature is moved by the triad to thirdness of assertion and/or belief; "the triad brings a third sort of element, the expression of thought, or reasoning, consisting of a colligation of two propositions, not mere dyadic propositions, but general beliefs; and these two propositions are connected by a common term and to produce a third belief. They not only tend to make the belief, but they also tend to render it true" (1.515). Peirce, of course, is referring here to the syllogism, but the syllogism is simply interrelated propositions as the argument is interrelated dicisigns. Thus, "in a proposition, the term [dicisign] which separately indicates the object of the symbol is termed the subject, and that which indicates the ground [the rheme] is termed the predicate. The objects indicated by the subject ... are therefore state by the proposition to be related to one another on the ground of the character indicated by the predicate" (1.559). This series of references in the proposition are called by Peirce denotation as reference to the object, connotation as reference to the common ground, and information as reference to the interpretants.

The whole colligation and construction of information is the substance of assertion, truth, and belief, for "we believe the proposition we are ready to act upon" (1.635). But acting upon propositions is subject to error, for its indexical assertion requires an inference about experience, and

> the only thing that the inference from experience can ever teach us is the approximate value of a ratio; ... every proposition which we can be entitled to make about the real world must be an approximate one; we can never have the right to hold any truth to be exact. Approximation must be the fabric out of which our philosophy has to be built. (1.404)

Dicisigns, as "double or information signs", can be "quasi-propositions" (2.309), subject to judgment either as psycho-logic (reflecting some black box concept of consciousness) or as semeiotic, for "no cognition and no Sign is absolutely precise, not even a Percept; and indefiniteness is of two kinds; indefiniteness as to what is the Object of the Sign, and indefiniteness as to its Interpretant, or indefiniteness in Breadth and in Depth" (4.543). A proposition, logical or semiotic, is approximate, for "no logical operation upon a proposition can result in anything but a[nother] proposition" (4.583). Therefore, "to explain judgment in terms of the 'proposition' is to explain it by that which is essentially intelligible. To explain the proposition in terms of the 'judgment' is to explain the self-intelligible in terms of a psychical act, which is the most obscure of phenomena or facts" (2.309n). Thus, one sees why Peirce has to widened the first two of the triad, to push logical definitions of rheme, or term, and dicisign, or proposition too far away from the semeiotic is to become lost in the psychical obscurities of phenomena, but to give them the emphasis of seme and pheme is to move toward the semiotic of the intelligible.

The proposition as type

This shift in Peirce's thinking toward the semeiotic of the intelligible instead of the logic of judgment is foreshadowed most clearly in his discussion of dicisigns in the "Division of Signs:"

> A *Dicent Sign* is a Sign, which for its Interpretant, is a Sign of Actual existence. It cannot, therefore, be an Icon, which affords not ground for an interpretation of it as referring to actual existence. *A Dicisign necessarily involves, as a part of it a Rheme, to describe the fact which it is interpreted as indicating.* [my emphasis] But this is a peculiar kind of Rheme; and while it is

essential to the Dicisign, it by no means constitutes it. (2.251)

Discernibly the problem of the proposition and its approximate judgments of the unity of impression centers in the nature of the indexical object and the "peculiar" nature of the rhematic classification. It is the same problem of the mediation by thirdness between absolute firstness and absolute secondness, the problem of hypostatic abstraction versus prescissive abstraction. The anchoring of the proposition in the dyadic subject relation of an actual existence is the difficulty, for as the logic positivists taught us so well, propositions need not have existential import. Yet it does no good to dismiss them as non-sense, for by Peircean lights, they would also be subject to the "as if it were" operations of semiosis because "the act of assertion is not a pure act of signification" (8.337). Either "non-propositional signs can only exist as constituents of propositions" by a process of prescission, or the interpretant function is more complex than we originally believe. Peirce is aware, as we all are, that signs can lie. As Eco has pointed out the lie is as much a part of the definition of sign as Peirce's tri-relative influence. They are the brute, resisting secondness of the sign system, and until we understand them, without the dismissal of logical positivism's nonsense or the dismissal of some kind of informational error or noise interpretation, we cannot understand the semeiotic of the intelligible.

Peirce, of course, addresses this problem in the arguments of his methodeutic, his speculative grammar, and his semeiotic throughout his life, but he makes a particularly complex attempt at solving this conundrum when he discusses dicisigns in the "Syllabus of 1902". There in discussing the truth and false characteristic of the dicisign, he points out that the only way a dicisign can "profess to refer or relate to something as having a real being independently of the representation of it as such" (2.310) is by a genuine index. Peirce then proceeds to see "what sort of sign a sign must be that in any way represents itself to be a genuine Index of its Object, *and nothing more* [my emphasis]" (2.310) by substituting the interpretant's representation of the existential relation of "an identity of the Dicisign with a genuine Index of the Dicisign's real object. That is, the interpretant represents a real existential relation of genuine Secondness, as subsisting between the Dicisign and its real Object" (2.310). Then Peirce follows with an odd notion that seems, on first reading, to contradict the ability of the Interpretant always to relate to other

signs: "But the Interpretant of a Sign can represent no other Object than *that of the Sign itself*" (2.310).

But the key emphasis here ought to be on "no other Object than that of the Sign itself", for Peirce is trying to solve the specific problem of the dicisign: that is, the "object of representation is not *ipso facto* real" (5.96). So to solve the problem, he goes on to discuss the very difficult idea of two objects for one sign, the Primary and secondary object (2.311), but even more strangely, to discuss them as double objects shared!

> It is at once a part of the Object and a part of the Interpretant of the Dicisign; ... it must be represented in that same Interpretant to be composed of two parts, corresponding respectively to its Object and itself (the Dicisign). That is to say, in order to understand the Dicisign, it must be regarded as composed of two such parts whether it be in itself so composed or not. (2.311)

So the interpretant has an object, which is both primarily tied to the object and secondarily tied to a dicisign, which will not be the same as the object.[33] This, I think, is the "impurity" of assertion that necessitates this rather closely reasoned passage, the widening of the rheme and dicisign into seme and pheme, and the development of the as-if-it-were qualification made to Lady Welby.

Therefore, it seems there are interpretants and then there are interpretants—not just the Immediate, Dynamic, and Final interpretants, but also some interpretants having credentials of significance and some interpretants having credentials of assertion. However, I do not think Peirce is creating a new category of interpretants, rather he realizes that assertoric representations are "a complexus as such" (3.311) and that a number of triadic relations are operating here, at least one of a general semiotic nature and one of an assertive nature, and perhaps one of the interactions between. Thus, the dicisign is apparently the internal margin of the categorical operations, just as the qualisign is the external margin of possibility.

> Hence, the Dicisign must exhibit a connection between these parts of itself, and must represent this connection to correspond to a connection in the object between the Secundal Primary Object [i.e., the primary object so far as it is dyadic in struc-

> ture] and the Firstness [or quality of the primary object] indicated by the part [of the Secundal Primary Object] corresponding to the Dicisign. (2.311)

This is the boundary of approximation between the Immediate object and the Dynamic object, and past here we cannot go, for there be the Frost Giants of a mechanistic universe of brute secondness and total Chance that allow no sign.

3.3.3. Argument

The argument is not as ambivalent a term as the rheme or proposition, but it is a very extensive term with broad applications in both Peirce's semeiotic and logical critique. As part of the "triad in reasoning", it is not one of the two terms needing widening, but rather for semiotic purposes it probably does need some narrowing. The argument recognizably has a logical function, for "logic deals with the relations of knowledge and with arguments, or inferences. [But] It may be that knowledge cannot be realized without somebody's thinking something corresponding to it, in the same sense in which color cannot be realized unless somebody sees it" (2.54). A logical critique not only raises questions about the nature of inference, but it also raises questions about the whole of knowledge and the role of "somebody's thinking it". And these questions turn out to be issues in the semeiotic about the general process of representation, the role of the interpretants, and the relations between assertion, signification, and cognition.

Peirce himself makes a distinction between the logical function and the semiotic function this way: "An 'Argument' is any process of thought reasonably tending to produce a definite belief", but "an 'Argumentation' is an Argument proceeding upon definitely formulated premisses" (6.456). Even though this distinction is probably not very precise, epistemologically, the chief difference seems to be between the systematic nature of logical inference and the systemic nature of semiotic representation. Such distinction seems to be a refinement of the original division of the Normative Science of Logic into Speculative Grammar, Critic, and Methodeutic (1.191), for Peirce increasingly realizes both the logical and semiotic necessity of understanding the three aspects of logical argument as Deduction,

Induction, and Abduction (2.266-70).

The essential role of argument, either as logic or semiotic, is the Interpretant's role of fixing the sign to the object and in fixing action, or deliberate belief, for the Mind that uses it. Apparently this is what Peirce calls "the leading principle" of an argument (2.462), for if "an *Argument* is a sign which distinctly represents the Interpretant, called its *Conclusion*, which it is intended to determine" (2.95) and if a "leading principle contains, by definition, whatever is considered requisite besides the premisses to determine the necessary or probable truth of the conclusion" (2.465). Thus the leading principle is something of the difference between assertion and the "pure act of signification" (8.337), and that difference will involve the role of the Logical Interpretant, for both of them are "determiners".

The determination of an interpretant, like that of the rheme and dicisign, is a matter of breadth and depth, which logically for the argument is an informational "distinction between the state of things in which its premisses are true and the state of things which is defined by the truth of its conclusion" (5.471). As Peirce's struggle with the dicent proposition shows, the issue of assertoric truth is an issue of the relations between an Immediate Primary object, a Secundal Dynamic object, and an Index of Actual Existence shared between the dicisign and the interpretant. Thus, the informational area of the interpretant, shaping the whole thrust of the propositional argument is the leading principle which may find itself expressed in the distinctions of the emotional, energetic, and logical interpretants which are capable of habit-changing (5.475-76). The force of logical argument is its power for changing belief, and "it is only the deliberate adoption of belief *in consequence of an admitted truth of some other proposition* [my emphasis] which is, properly speaking, reasoning" (2.204).

But even if reasoning must find itself realized in thinking and even if all thinking is in signs, "not all signs ... have logical interpretants, but only intellectual concepts and the like" (2.482). It is these intellectual concepts, no doubt assertoric in the case of the logical interpretant, which will be "the leading principle" of "definitely formulated premisses". The semiotic tri-relative influence will, as a matter of signing fact, determine the signification process of the interpretant, but the argumentative use of signification will be a special adaptation and critique of those processes. Still, the distinction of intellectual concepts "does not tell us just what the nature of the essential effect upon the interpreter, brought about by the sēmīósis

of the sign, which constitutes the logical interpretant" (5.484).

It is this difference between an "essential effect" and an "intellectual" one that is at the heart of the distinction between the uses of inference by argument and by argumentation—a difference which has to do with the nature of semiosis, for "what is more important is that it certainly seems that an inference cannot have any life unless somebody performs a thinking process. Still, the inference, or argument, so far as logic can take any cognizance of it, may be, not to say probably is, of an entirely different construction from the thinking process" (2.54). This distinction between uses of inference is a necessary one, for logic has tended to pursue a ghost of its own, or Aristotle's, making in which the process of thought is viewed as "a succession of distinct arguments each having a previously thought premiss" (2.27); that is, a series of related and necessarily stepped inferences. Thus, "we are lead to generalize our idea of argumentation, from the perception that one assertion has to be admitted because another is admitted, to embrace also the process of thought in which we think that the one assertion is true, yet another is not thereby true" (2.356).

The error of this assumption is that it believes that there is a first Premiss and that "reasoning cannot begin with the very perceptions of sense". However, Peirce offers the alternative idea that

> logical argument only represents the last part of thought.... For there is no fact in our possession to forbid our supposing that the thinking- process was one continuous *(though undoubtedly varied)* process. .... The real thinking-process presumably begins at the very percepts. But a percept cannot be represented in words, and consequently, *the first part of thinking cannot be represented by any logical form of argument.* Our logical account of the matter has to start from a *perceptual fact*, or proposition resulting from thought about a percept—thinking in its own movement presumably of the same nature as that which we repre-sent by arguments and inferences, but *not so representable in consequence of a defect in that method of representation.* [my emphasis] (2.27)

Unmistakably there are two contrastive judgments here in Peirce's thinking; one is the judgment of "undoubtedly varied" processes; and the other is a that of "a defect" in methods of representation.

Logicians, of course, will prefer the notion of "defect", which Peirce seems to follow in his critique because "the very idea of logic forces upon the logician the conception of inference, and inference involves the idea of necessary inference, and necessary inference involves the idea of the universal conditional proposition" (2.355).

But the student of signs will prefer the notion of "undoubtedly varied" processes because it allows one to examine the "cooperation of three subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into actions between pairs" (5.484). Yet,

> although the definition [of Sign] does not require the logical interpretant (...) to be a modification of consciousness, yet our lack of experience of any semiosis in which this is the case, leaves us no alternative to beginning our inquiry into its general nature with a provisional assumption that the interpretant is, at least in all cases, sufficiently close analogue of modification of consciousness to keep our conclusion pretty near to the general truth. (5.485)

So when Peirce tries finally to distinguish between the intellectual and semiotic functions of the interpretant, he is drawing the difference between argument as a type and class and argumentation as a process of definitely formulating premisses without trying to prejudice either in a hierarchical way. The best logic will try to become as identical with the semeiotic as the Final interpretant tries to insure that the Immediate object is identical with the Dynamic object.

The argument as type

Peirce defines the argument in two ways: first as "a Sign, which, for its Interpretant, is a Sign of Law", and then as "a Sign which is understood to represent its Object in its Character as a Sign" (2.252). He seems to take this double tact because both the psychical and logical issues involved in the process of judgment are the essence of the assertoric problem, for he says,

> This sign retains its full meaning whether it be actually asserted or not. The peculiarity of it, therefore lies in its mode of

> meaning; and to say this is to say that is peculiarity lies in relation to its interpretant. The proposition professes to be really affected by the actual existent or real law to which it refers. The argument makes the same pretensions, but that is not the principle pretension of the argument. (2.252)

Argument, as a type and as a third of thirds, is concerned not only with the "law of the Sign", but with its "existential relation" as well. Thus, since "the Argument can only urge the law by urging it in an instance" (2.253), the occurrence of the compulsion of argument as assertion lies in the Dicent Symbol as the Premiss, and since "an *Argument* is a sign which distinctly represents the Interpretant, called its *Conclusion*, which it is intended to determine" (2.95), the argumentative force of an argument as sign lies in the particular use of an interpretant to be "the full expression of the Argument" (2.253). "Without being absolutely confident", Peirce is drawing the same distinction between the more general semiotic nature of a third of thirds and the more specifically intellectual and logical nature of argument.

This distinction is necessary for two reasons: one has to do with Peirce's collapsing of Premisses into one Premiss, and the second has to do with the semiotic interconnections of propositional breadth and depth with the information state of an argument. As Peirce's puts in a note from 1893:

> The breadth of an proposition is the aggregate of possible states of things in which it is true; the breadth of an argument is the aggregate of possible cases to which it applies. The depth of a proposition is the total fact which it asserts of the state of things to which it is applied; the depth of an argument is the importance of the conclusions which it draws. (2.407n)

Yet if the real thirdness of breadth and depth of propositions is the informational state, or Area (2.419), what then would be the informational area of the argument? Unfortunately, there seem to be two ways of answering that question in Peirce, but I hope to try to pull them into one. The first apparent answer is the one I have been arguing here—that the interpretant establishes the "leading principle" of an argument by the kind of emphasis it gives to the Argument and its Conclusion. The second apparent answer lies in the

relation of information to breadth and depth.

In the "Elements of Logic" in 1893, Peirce tries to establish that logical extension and comprehension, in regards to terms and propositions, are best seen as breadth and depth. He then establishes three classes of breadth and depth: essential, substantial, and informed referring respectively to conceivable versus real, form versus substance, and real things versus real characters (2.407-14). And from these he argues that information about a term lies in the area relations between depth and breadth. Yet in the earlier versions of these paragraphs published as the "Natural Classification of Arguments" of 1867, Peirce had said: "This breadth and depth must not be confounded with logical extension and comprehension, as these terms are usually taken" (2.473). Moreover, if one reads the textual notes to paragraph 407, Peirce had apparently reversed his mind about how breadth and depth worked, for what had been a negation in 1867 was changed to an affirmative in 1893. To wit:

> By the *informed breadth* of a term, I shall mean all the real things of which it is predicable, with logical truth on the whole in a supposed state of information. By the phrase 'on the whole' I mean to indicate that all the information at hand must be taken into account, and that those things only of which there is [1867: 'not'] on the whole reason to believe that a term is truly predicable are [1867: 'not'] to be reckoned as part of its breadth. (2.407 and 2.407n)

This inversion in Peirce's thinking is difficult to follow, but if I read him correctly, he has taken what had been a larger sense of logical extension and comprehension and has shifted it to a larger sense of the role of the interpretant. The key terms here are "informed" and "information", for information is both a state determined by logical truth and an Area determined by the relation of breadth and depth, "so far as they are not essential" (2.419). Thus, it would seem that Peirce's three classes of breadth and depth are basically the three categories and their correlate rules applied to the complexus of terms and propositions in arguments. If this is true, then "the supposed state of information", in an argument, as argumentation, has to do with logical truth and not assertion (2.469n) and a premiss "will refer exclusively to something laid down (whether in any enduring and communicable form of expression or only in some

imagined sign) and not to anything only *virtually* contained in what is said or thought, and also exclusively to that part of what is laid down which is (or supposed to be) relevant to the conclusion" (2.461). Thus, the interpretant, as conclusion, relates both to the Premiss and to the sign to establish a particular and peculiar process of the "logical principle ... [which means] only what we would infer from certain premisses" (2.469n).

3.4. Typology into classification

Of course, Peirce's typology of signs is skewed toward a viewpoint of argumentation. He was, after all, a logician concerned with the consequences of argument and the operation of logic, and much of his typology of signs is motivated by logical issues and designed to resolve difficulties in logic. However, as the emphasis on consciousness, perception, and discovery show, he was also an intensely visual thinker who used a larger number of iconic models to develop his logical emphasis into a semiotic one. If one just stopped with Peirce's typology of signs, one would have a rather incomplete view of semiosis. One has to go on to consider the Classification of those types of signs, for it is through the problems of Classification that Peirce redirects the semeiotic away from logical analysis toward the notion of Growth and Pragmaticism. His typology is instructive and productive, but some of the real wilderness of the semeiotic lies in carrying the trichotomous division past typology into Classification. That, I think, does in effect begin to open up the territory of the semeiotic.

Chapter Four

Triadomany extended: the classes of signs

Expect poison from the standing water.
William Blake, "Proverbs of Hell"

In Chapter Two I explored several of the aspects of Peirce's categories, and now I would like to continue that exploration by examining the classes of signs in light of the categories. For example, Peirce says the categories lead to "three Universes of Experience, familiar to us all". They lead to the first universe of experience which "is comprised of all mere Ideas, those airy nothings to the mind of the poet, pure mathematician, or another *might* give local habitation and a name." They lead to the second universe which is comprised "of the Brute Actuality of things and facts", and they lead to the third universe which is comprised of "everything whose being consists in active power to establish connections between different objects, especially between objects in different Universes" (6.455). Of course, the third universe of experience is the universe of semiosis because it "is everything which is essentially a Sign—not the mere body of the Sign, which is essentially such, but, so to speak, the Sign's soul, which has its Being in its power of serving as intermediary between its Object and the Mind" (6.455). Despite the familiarity of the universes of experience, this statement by Peirce ought to jangle, for it seems to confuse the normal sequences of the categories. Rather than Ideas being a necessary third because of their generality and relation to mind, Peirce lists them here as a first because of their nothingness, and he lists the third universe as the universe of signs not because of the governance of rules but because it connects just like the infinity of continuum. Finally the third universe, rather than being identified with the process of Reasoning, is prioritized here as the very "Sign's Soul".

However, the oddity is only apparent, for Peirce seems to recognize two perspectives on the categories. The first is the generative perspective of prescission in which the categories are prescinded from the given of secondness and the necessities of continuity, and the second, the one quoted here, in which the categories are examined from the perspective of the sign and its relation to mind. The two

perspectives are necessary because they reflect the two absolutes in the Semeiotic: the universes as they would be seen from the perspective of firstness and secondness; that is, types of signs and classes of signs. It would seem, then, that seconds generate questions of origins in Fact and then connection by signs, while firsts generate questions of origins in signs and then connections in Fact. If that double perspective is true, then the thrust of Peirce's description of the categories as universes is toward the articulation of the sign. So as prescission leads to the categories; so does trichotomizing lead to the sign's soul. If the categories are, as Peirce thought, the skeleton of the Semeiotic; then the various specific types and classes of signs are the flesh and spirit, and the two join to incarnate the sign's soul to give us the third world of experience.

4.1. Peirce and the trichotomies

But since the third world of experience is composed of multiple aspects of the sign, the categories as types and classes of signs, except for the first, are subject to degeneracy. For example, secondness has two forms one degenerate and one genuine. The genuine second is, of course, the existent relation that "suffers and yet resists" (1.358). Still, it is subject to a single degeneracy of two different species: the first is "a species where the secondness is strong, the other a species where the secondness is weak" (5.69). The first species is more genuine by "one thing acting upon another" (8.330) and the second species is more degenerate by containing some monadic idea. Or the first is more genuine because it involves reaction to an existent and the second more degenerate because it implies action without reaction (8.330). Finally, thirdness has three forms; the genuine form consists of "a sign, its object and the interpreting thought, itself a sign" (8.332); and the two forms of degeneracy are, first, the lesser degenerate one consisting of correlates that are singular, and second, the more degenerate one in which "we conceive a mere Quality of Feeling" (5.71). Apparently, the less degenerate form has "an interpretant ... [that] is not a thought, but an action" (8.332), and the more degenerate form has been "enlarged" to allow an interpretant of "a mere quality of feeling" (8.332).

Peirce determines these degeneracies by prescission in the same way he generates the categories; they are the stages of necessary possibility

which exist because of the tensions between an absolute first and absolute Last mediated by the thirdness of thought. Peirce argues that

> Taking any class in whose essential idea the predominant element is Thirdness, or Representation, the self-development of that essential idea ... results in a *trichotomy* giving rise to three sub-classes, or genera, involving respectively reactional thirdness or thirdness of the lesser degree of degeneracy, and a relative qualitative thirdness, or thirdness of the last degeneracy. (5.72)

So, in essence, trichotomizing is turning the triadicity of thirdness loose upon the sign as a technique for examining the aspects of a tri-relative influence, for it uses the tri-relative influence to create trichotomous classifications of triads. Such an operation, of course, has all the clarity of using a mirror to look at a mirror, but if the "tri-relative influence" is as important as Peirce believes it to be, then he must turn to trichotomizing of the sign even if it has all the difficulties of using signs to discuss signs. However, although this is no small problem, Peirce's background in the physical sciences and his expertise in mathematical, logical symbolism make him uniquely qualified to tackle what is the major, if inescapable, methodological problem for semiosis: using the sign system to study the sign system.

Peirce usually uses three different terms for a group of three.[34] One term is the more chemically valent term *triad* (4.319), which Peirce uses parallel to monad and dyad, and which I will take as meaning any collection of any three. Another is the *trichotomy* (5.72) which Peirce seems to use as a structure, or set, of three, and which I will take as meaning a structured set of three as related to the three categories. The third term is *tri-relative* (5.484) which Peirce seems to use as a general term, and which I will take as meaning a collection of three which is related in some indeterminate way. My sense is that *triad* is a term of secondness reflecting any three things, that *trichotomy* is a term of thirdness reflecting a rule-governed relation (or relations) between three things, and that *tri-relative* is a term of firstness reflecting an indeterminate set of three things. However, I may be over-stipulating this usage since the sign, which is repeatedly trichotomized by Peirce, is, after all, a triad with a tri-relative influence, but nevertheless such attempts to layer the three terms seems consistent with Peirce triple layered thought even if he uses such confusing phrases as "triadic influence" (8.332).

Regardless of confusion, the tri-relative influence is essential to the definition of sign, and in the "Division of Signs" (2.227-73), Peirce uses trichotomies to develop his classifications of signs and to describe the relationships between signs. As he puts it, "Signs are divisible by three trichotomies". The first division is a trichotomy "according as the sign itself is a mere quality, is an actual existent, or is a general law." The second is a trichotomy "according as the relation of the sign to its object consists in the sign having some character in itself, or in some existential relation to that object, or in its relation to an interpretant." And the third is "according as its Interpretant represents it as a sign of possibility or as a sign of fact or as a sign of reason" (2.243). It is from this division by trichotomies that Peirce is able to develop the nine types of signs: the Qualisign, Sinsign, Legisign, Icon, Index, Icon, Rheme, Dicent Sign, and Argument, and the ten classes of signs. But how does it work?

4.1.1. The tri-square: a surveyor's thinking

I think the key term in the operation of trichotomizing lies in the word "divisible", for divisibility is the results of another mathematical operation, multiplication. As Peirce puts it in a different context, "Triadic relations are in three ways divisible by trichotomy, according as the First, Second, or Third Correlate, respectively, is a mere possibility, an actual existent, or a law. These three trichotomies, *taken together* [my emphasis], divide all triadic relations into ten classes" (2.238). This process of division is most clearly narrated in his comments to Lady Welby, where he sets up a nine block grid (8.353) of numbers, 11.21, 12.22, 13.23, etc, to represent the types and classes of signs, which are then described by reference to its four corners, directions, and numerical intersections (8.355).

Peirce was, of course, accustomed to using this kind of matrix convention for sets of relations and their inter-connections, and his "block of nine" is apparently based upon multiplication models that he had used, from his father's work, in the "Notation for Logic of Relatives" (3.126f and 3.303) to reflect, in number theory, the mutual relations between multiplication and division. This "block" table is further developed,[35] in "The Simplest Mathematics", (4.302) to reflect what he calls "*relative* multiplication, which is the operation of so combining a relative term—such as 'lover of'—as

multiplier, with a correlate as a multiplicand, so as to yield, as product, the relate which is signified by the relate term to the object indicated as correlate" (4.302). Also, in the 1903 *Syllabus*, he particularly classifies dyadic relations by using a fully developed tri-square (3.581) of nine blocks, three on each side to demonstrate the relations between some 39 different "lations". So, as he puts the problem to Lady Welby,

> Before proceeding to the third trichotomy, let [us] inquire what relations, if any, are found between the two that have been brought to light. What I mean precisely by *between these relations* is whether or not the three members of the first trichotomy, ... are or are not independent of ... members of the second. (8.353)

Thus, the tri-square is a device for representing the relations between two trichotomies, one along the vertical axis and one along the horizontal axis, and thereby allowing one to discuss the classifications of those relationships as "multipliers" of one another.

Gerard Deledalle[36] and others[37] have followed this configuration to represent the kind of definitions Peirce gave to the types and classes of signs. In fact, such an arrangement (as in Figure 4) seems to be a fixture of Peircean scholarship. In deference to both Peirce and Deledalle, I will call this "block of nine" table the *Tri-Square*[38] and will seek to use it to show how productive it is as a charting device and how extensive it is to Peirce's thinking, for out of this tri-relative influence, this division of trichotomies, this block of sign relations, one is able to detail much of what Peirce conceived and some of what Peirce did not have time to finish.

First, I suspect that one reason this form of a Peircean Tri-square is so important was that much of Peirce's thinking is probably modeled on his surveyor's habits. For example, one need only note that he uses map coordinates and directional points to describe the tri-square to Lady Welby, but I think the influence runs deeper than just a visual convention in a letter, for the kind of triangulation possible in the tri-square can be related to the surveyor's penchant to define space by triangular relationships. It is common knowledge that Peirce served on the Coastal Survey, that he was a participant in the physical surveying of Louisiana in 1859, and that he was an international authority on geodesic survey, but the relation of these work experiences have drawn very little comment, other than anecdotal, in studies of Peirce's

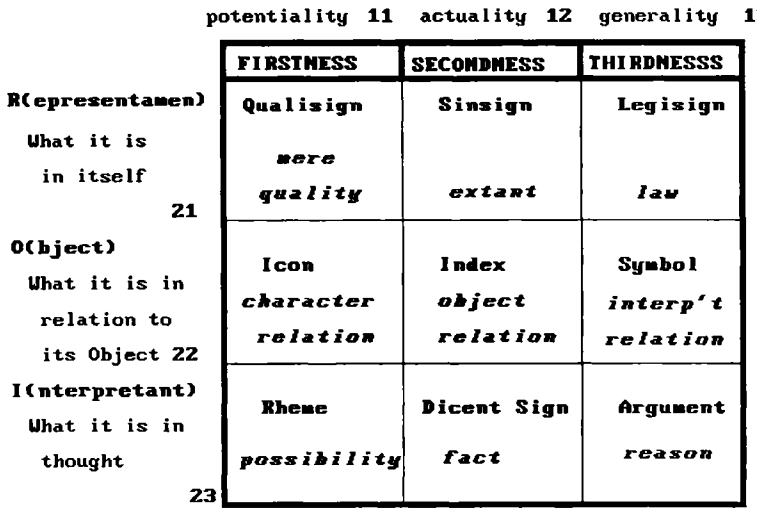

Figure 4. A Tri-Square of nine types of signs

Semeiotic. Certainly much is made of Peirce's role as a mathematician and logician in the discussions of his semiotic pragmaticism, and the conventions of mathematics, geometry, and symbolic logic are crucial to his thinking. Yet more attention ought to be given to the impact of his surveying experience on his thought. Any one who refers to himself as a "backwoodsmen exploring the semeiotic" (5.488), who talks about the "field" of thought and the interpretant (4.553n) and the "ground" of the sign, or who creates Existential Graphs as "moving pictures of thought" (4.8) certainly has a visual, spatial mind. And any logician who casts the square of oppo-sition as a quadrant (2.455), or who sees cognition as ratios, or whose categories of reality are so clearly defined like surveying concepts that they could easily be in a surveying textbook as well as a philosopher's text, surely was affected by his own surveying experience.

It is not just that Peirce relied on trichotomies of triads to develop the Semeiotic and "a matrix method for two-valued logic, but he also originated a matrix for three-valued logic" (Fisch 1986:172). Surveying is a quintessentially three-valued logic based upon trigonometric ratios of the angles and sides of a right triangle, and a surveyor determines area or topography by measuring some combination of sides and angles in a series of triangulations. It is an art or science as

old as the Egyptians, and it formed much of the Platonic fascination with Geometry as reasoning model. It was also part of the informing of Pythagorean thought which lead to the Pythagorean theorem and is surely one of the more concrete forms of thought that human beings have developed.

Moreover, it seems to me that something in Peirce's thinking has a distinct surveyor's flavor to it. For example, his categories are called by Peirce "Cenopythagorean" to reflect the archetypal capacity of numbers to represent relations, and they are not just a pragmatic, neo-Euclidian reading of Kant, but also surveying operations—a firstness is a prescinded base line, a secondness is a line of second reading to force an angular, dyadic encounter, and a thirdness is a trigonometric, extrapolated judgment to determine the area (of information). In fact, Peirce persistently describes continuity in the spatial terms of geometry, using point, line, surface, area, intersection, length, breadth, etc to describe continuity and informational significance. This pattern of surveying analogies in Peirce's thinking can be most clearly seen in an example of his discussion of Fact in the 1896, *Logic of Mathematics*, where he says:

> Two phenomena, whose parts are not attended to, cannot display any law, or regularity. *Three* dots may be placed in a straight line, which is a kind of regularity, or they may be placed at the vertices of an equilateral triangle, which is another kind of regularity. But *two* dots cannot be placed in any particularly regular way, since there is but one way in which they can be placed, unless they were set together, when they would cease to be two. It is true that on the earth two dots may be placed antipodally. But that is only one of the expectations that prove the rules, because the earth is a third object there taken into account. (1.429)

This explanation, albeit only one of many in his writing, clearly shows a surveyor's thinking about lines, points, angles, surfaces, and relations as an illustration of regularity and fact. It is the intersection of two "lines" of phenomena whose resistance and struggle produce the brute fact of secondness, and the regularity of trigonometric ratios are clear examples of the thirdness of interpretants.

Another example that shows the surveyor's mark in Peirce's thinking is his 1906 *Prolegomena to an Apology for Pragmaticism*, which Max Fisch calls "the fullest and most mature accounts both of his

semeiotic and of his existential graphs that he succeeded in publishing" (1986:336). There Peirce begins his discussion of pragmaticism with the issue of diagrams, and his anecdotal beginning is about a whether a general[39] would find maps useful in waging a campaign. He then moves on to refer to chemistry examples in order to establish that both structure and equations are diagrams "of the form of the relation between the two focal distances and the principle of focal distance" (4.530). And then he concludes his opening with a discussion of the role of diagrams and signs in experimentation by saying:

> Not only is it true that *by experimentation upon some diagram an experimental proof can be obtained of every necessary conclusion from any given Copulate of Premisses*, [my emphasis] but, what is more, no "necessary" conclusion is any more apodictic than inductive reasoning becomes from the moment when experimentation can be multiplied *ad libitum* at no more cost than a summons before the imagination. (4.531)

This is followed with a repetition of his basic definition of sign and a discussion of proofs given by different signs. Then later, as he details the relationship between graphs and signs, he remembers his boyhood fascination with maps and mazes (4.533) so that he can describe the mathematical thinking involved in pragmatical thinking.[40]

Also, when one turns to Peirce's description of the Existential Graphs, one begins to see the surveyor's mark take free reign, for not only are the Existential Graphs diagrams and maps of "moving thought" (4.8) to avoid the dangers of psychologism, they are also described in the territorial terms of heraldry. The Tincture of a Graph in continuation is a *Province*, and the border of the Province is called a *March* (4.553). The enclosed area of a Graph is called a *Sheet* and the "image of the universal *field* of interconnected Thought" (4.553n), and an Interpreter makes a *Cut* to define an *Enclosure* and to mark an *Area* (4.555-56). And finally terms and identities are referred to as dots forming *lines* or *surfaces* (4.559). Of course, one could argue that this terminology about graphs is, after all, as much due to Peirce's fascination with the power of the icon as it is due to his surveying experience, and in a sense that would be true, for as Peirce argues, "Diagrammatic reasoning is the only really fertile reasoning" (4.571). He is concerned with the iconic quality of reasoning in this defense of pragmaticism, but iconic reasoning to Peirce is diagram-

matic reasoning, and to overlook the visual quality of surveying would be a mistake, for as he continues, "If logicians would only embrace this method, we should no longer see attempts to base their science on the fragile foundations of metaphysics or a psychology not based on logical theory" (4.571).

It is obvious that Peirce's sense of both mathematics and logic is heavily influenced by geometric thought; so much so that at one point, he says, "metaphysics has always been the ape of mathematics" (6.30). Of course, Peirce's thinking is extensively mathematical, but that mathematics was also extensively geometrical; for example, his praise of mathematical thinking centers around its use in philosophy. He says, "Modern mathematics is replete with ideas which may be applied to philosophy" (6.26), and goes on to argue for both the productivity of geometry's "generalized perspective" and the probing philosophical quality of modern views of measurement, something about which Peirce has certainly been ratified in the measurement problems of contemporary physics. Nevertheless, the rigor and abstraction of mathematical thinking is, for Peirce, essentially the power of logic—not the power of mathematics as the logical positivists might have it, but the power of an imaginative logic which utilizes iconic reasoning. For him, "Measurement ... is a business fundamentally of the same nature as classification" (1.275), and when he treats of measurement, space, or relations, Peirce inevitably uses a surveyor's mind set.

Of course, one might respond that it is natural that Peirce, when discussing mathematics and measurement, would rely on his surveying past since the operations of both have a great deal in common. However, one might also wonder if this surveying influence, when applied to his "semeiotic", is more metaphoric than substantive. One way to test that concern is to look at how Peirce treats one of his major semiotic classes, the interpretant, for there is much to suggest that the interpretant as a sign relation is, as a matter of course, a kind of trigonometric, extrapolated judgment of the sign. It operates as a thirdness of law, and it is the yet to be discovered relation, or ratio, between the sign (or Sine if you need the pun belabored) and its object. But more to the point, Peirce does seem to view the interpretant relation physically like a surveyor. Let me mention only two. First, as the Existential Graphs suggest, what one is dealing with, in the Semeiotic, is the fields of thought. And Peirce persists in discussing semiosis (as either semeiotic or logic) in terms of these

kinds of surveying metaphors, for as late as 1906, he still defines the indefiniteness of signs as an "indefiniteness as to its Interpretant, or indefiniteness in Breadth and in Depth" (4.543). Any number of times he seems to approach interpretants as there were a large number functioning together in some way. For example, in a manuscript letter (thought to be to Lady Welby), he writes, "to get more distinct notions of what the Object of a sign in general is, and what the Interpretant in general is, it is needful to distinguish two senses of Object and three of Interpretant" (8.82), and later he goes on to mention specifically an Immediate Interpretant, a Dynamic Interpretant, and a Final Interpretant. But these are not the only attempts at finding a multiple of interpretants, and if Peirce follows his own observation that any trichotomy will yield ten classes (2.238), then one begins to see that there is a field of interpretants,[41] and fields are areas of depth and breadth which relate to the amount and kinds of information than can exist in a sign.

Second, in his "Elements of Logic", which pursues the operations of the ten classes of signs in the tri-square, Peirce discusses Rhemes (Terms) as symbols which are referenced by "breadth" and "depth", the sum of which is the "information concerning the symbol" (2.418), and he continues

> It is plain that the breadth and depth of a symbol, so far as they are *not* essential, measure the *information* concerning it, that is, the synthetical propositions of which it is subject or predicate. This follows directly from the definitions of breadth, depth, and information. Here it follows:
>
> First, That, as long as the information remains constant, the greater the breadth, the less the depth;
>
> Second, That every increase of information is accompanied by an increase in depth or breadth, independent of the other quantity;
>
> Third, That, when there is no information, there is either no depth or breadth, and conversely.
>
> These are the true and obvious relations of breadth and depth. They will be naturally suggested if we term the information the *area*, and write—
>
> Breadth X Depth = Area. (2.419)

He then describes the whole process of classification in terms of different combinations of increase and/or decrease in breadth, depth, and information (2.422), linking denotation with breadth (2.428) and connotation with depth (3.608). In short, this whole scheme is a geometrical one in which area is defined by measurements of breadth and depth, and generalization, induction, abstraction, specification, supposition, determination, restriction, and descent are offered as spatial concepts much like any logical diagram. The proposition, like the argument, is a process of area and information. He says,

> It thus appears that all knowledge comes to us by observation. A part is forced upon us from without and seems to result from Nature's mind; a part comes from the depths of the mind as seen from within, which by an egotistical anacoluthon we call our mind. The three essential elements of inference are, then, colligation, observation, and the judgment that what we observe in the colligated data follows a rule. (2.444)

Of course, the terms used in these examples are, mathematical and algebraical terms, not spatial terms; they are conceptual terms, but nevertheless, the terms are used to describe relations. And despite the attempt of the Bourbaki school to denigrate the physical modeling of mathematical relations, the real basis of the mathematical metaphors is that they do refer to spatial relations.[42] They are, as Peirce the surveyor, mathematician, and logician knew, conventions of representation that have stimulated by our very spatial, visual existence. Moreover, Peirce was willing to extend the analogy himself; as a note he added in 1893 to the above passage puts it: "Analogous to increase in information in us, there is a phenomenon of nature, development, by which a multitude of things come to have a multitude of characters, which have been involved in few characters in few things" (2.419). Thus, I would argue that Peirce was essentially a map-maker of the Semeiotic. His backwoods metaphor is no mere false sense of humility, but more of an actual description of what he perceived himself having done. His emphasis upon the relations of the sign, his need to diagram and understand the difference between iconic and indexical representations, and his fascination with the territoriality of classification and the mapping of propositions are what make him a scholastic realist, and it is his experience with the concrete rationality of surveying that allows him to model much of what he has done.

In fact, much of the power of Peirce's concept of semiotics, as opposed to the more linguistic center of Saussure, is the visual quality of his thinking. Peirce's thinking process is specifically visual, or as he said, iconic.[43] "Remember it is by icons that we really reason, and abstract statements are valueless in reasoning except so far as they aid us to construct diagrams" (4.127). Thus, the role of the Existential Graphs, the thrust of the Logic or Relatives, and the impetus of the Semeiotic is to draw of map of reasoning, and the surveying episteme is a way of escaping the psychologism that builds the black box of the self. It is a way of actually portraying the "Quasi-Mind" as a "law of final causation" without resorting to psychology's "special department of mind", its "phenomenon of consciousness" (7.363), its dualistic Doctrine of Parallelism for the relations of soul and body (7.368), or its unreliable (Peirce actually says impossible) introspection (7.376). It also is a way of approaching "Nature's Mind", without resorting to an external godhead or a completely teleological explanation of the universe, and I think it is worth continuing, for from this iconic method of thinking, "there would soon be such an advance in logic that every science would feel the benefit of it" (4.571).

4.1.2. Trichotomous quarrels

There seems to be, in Peircean scholarship, somewhat of mystique surrounding Peirce's various trichotomies and classes of signs, I suppose, because "trichotomic" division is a strangely convoluted and productive idea and Peirce's rendering of the correlate rules is filled with nested references. However, Hartshorne and Weiss did not help the mystery with their emendations to Peirce's three correlate rules. Their contention that one needs to exchange the first and third correlates (when dealing with possibility and legality) in order to make the passage consistent with Peirce's later articulation of the ten classes is somewhat wrongheaded. As I have argued previously, the categories form boundaries to the Semeiotic, and Peirce's rendering correlate Names, at least, reflect the semiotic reality that thirdness is bounded by an absolute firstness and absolute secondness. Despite even Gary Sanders's excellent defense (1970:5) of Hartshorne and Weiss, there is no need to exchange the names in the first two correlate rules (2.235-36), for whether one assumes a "Third Correlate is possibility" or

a "First Correlate is a possibility", the three rules of correlates will require four automatic classes: one of three possibilities, one of three existences, one of three laws, and one which is a full mix of possibility, existence, and law. After those initial requirements the other six classes will be derived quite naturally either way because what Peirce defines here is a pattern of relationships. What he has stressed in the previous paragraph is the idea of "triadic relations" as comparison, performance, and thought as well as possibility, fact, and law (2.234), and the context of Three correlate rules is the triadic relationships in tri-relative influence, and not necessarily in a hierarchy labeled by "First", "Second", or "Third".

I suspect that Hartshorne and Weiss, like many other readers, assume, perhaps somewhat unintentionally, that Peirce's ten classes form a hierarchy, and that is not necessarily the case. A cardinal sequence need not be an ordinal one, except as "a special class of ordinals", for "cardinal numbers signify the *grades* of multitude" (4.659). As Peirce says, "All that is essential to the mathematics of numbers is *succession* and definite relations of succession, and that is just the idea that ordinal number develops" (4.659). categories, trichotomies, and classes, after all, are not born sequentially from Peirce's brow, but he simply, if such an inane word can describe such a complex process, generated the ten classes from the first correlate to the third in his own three trichotomies (2.238)—a straight "reading" of triadic relations from the left to the right through the division of trichotomies.

It is much the same process Peirce used for the categories—starting with firstness, even if a starting point of secondness or thirdness would be clearer, because he wished to demonstrate argumentatively his Semeiotic. His "succession" here leads to a discussion of "definite relations of succession" as divisible by trichotomies, and these "readings" are, after all, reconstructions for demonstration, not total reflections of the power of a correlate. They certainly can develop a more ordinal notion like a hierarchy, but the correlate rules, as well as the trichotomies, are, I believe, best considered as stipulations in diagrammatic thinking not mathematical orderings, for Peirce renders them visually as well as sequentially. If there is a hierarchy it is a pragmatic one which exists because all is mediated by signs and if there is hierarchy it is spatial because of diagrammatic thinking. In fact, the correlate rules, like the categories, are prescissively constructed. As Deledalle puts it, "the principle of the hierarchy of

categories ... stipulates that a third presupposes a second and a first, a second presupposes a first, a first nothing other than itself" (1990:57).

Actually Peirce does two separate, but similar diagrams of the classes of signs: one is the triangular stack of ten boxes from the "Division of Signs" (2.264), and the other, in a draft of a 1908 letter to Lady Welby, shows a large triangle divided into forty-nine smaller triangles to represent the classes of signs (8.376). In the first representation (Figure 5), Peirce puts, from left to right in the top four boxes, the Qualisign, the Iconic Legisign, the Rhematic Symbol, and the Argument. In the second row of boxes, he puts,

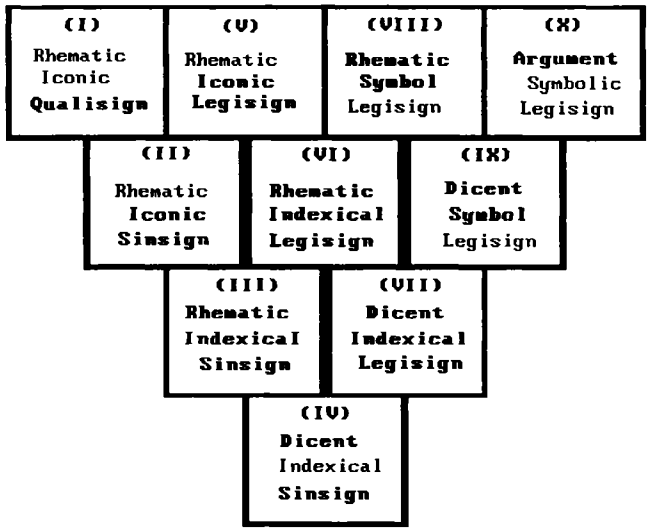

Figure 5. Peirce's triangular boxes

left to right, the Iconic Sinsign, the Rhematic Indexical Legisign, and the Dicent Symbol. In the third row, from left to right, he puts the Rhematic Indexical Sinsign and the Dicent Indexical Legisign, and in the lowest box, he puts the Dicent Sinsign. Peirce describes this arrangement as exhibiting the "affinities of the ten classes", and declares that the heavy boundaries in the middle represent "classes alike in only one respect". Other boundaries between adjacent

squares are said to represent classes "alike in two respects", and non-adjacent squares are said to represent "classes alike in one respect only, except that each of the three squares of the vertices of the triangle pertains to a class differing in all three respects from the classes to which the squares along the opposite side of the triangle are appropriated" (2.264).

It is obvious that Peirce's thinking here is complex and that he envisions such diagrams as a further trichotomization of the nine types of signs, for the "three trichotomies of Signs result in dividing Signs into TEN CLASSES OF SIGNS" (2.254). Here he assigns the upper left vertex to portray the first column of the tri-square, the upper right vertex is assigned for the third column, and the bottom vertex is assigned for the middle column. Thus, the left most boxes of the triangular stack are iconic, the right most boxes are symbolic, and the bottom most boxes are indexical. The central box is doubly trichotomous in that the Rhematic Indexical Legisign is composed of a first of thirds, and second of seconds, and a third of firsts. As is characteristic of the "Division of Signs", this rendering of the Trichotomies seems to reflect a logical hierarchy with Argument being in the position of the most sophisticated sign because it is a third of thirds.

However, when Peirce returns to this same problem in 1908 and tries to reshape the Trichotomies in light of interpretant growth, that logical hierarchy is muted somewhat. In that second representation (Figure 6), Peirce draws a triangle composed of forty-nine smaller triangles numbering the triangle of the upper left vertex as a 3-3-3, the triangle of the upper right vertex as 1-1-1, and the triangle of the bottom vertex triangle as 2-2-2. He describes this notation by saying that "The number above to the left describes the Object of the sign. That above to the right describes the Interpretant. That below describes the sign itself. 1 signifies Possible Modality, that of an Idea. 2 signifies the Actual Modality, that of an Occurrence. 3 signifies the Necessary Modality, that of a Habit" (8.376). Seven other triangles are also numbered, but the middle triangle is clearly noted as "3" in its upper left vertex, "1" in its upper right vertex, and "2" at its bottom vertex. This "scrap" diagram, as Peirce terms it to Lady Welby, is conspicuously related to the triangle of stacked boxes, but it complicates them in three ways. The first is to increase the number of classification slots from ten to forty-nine—a natural outgrowth of discussing the "Ten Main Trichotomies of signs" in light of the interpretant's function. The second complication is that two of

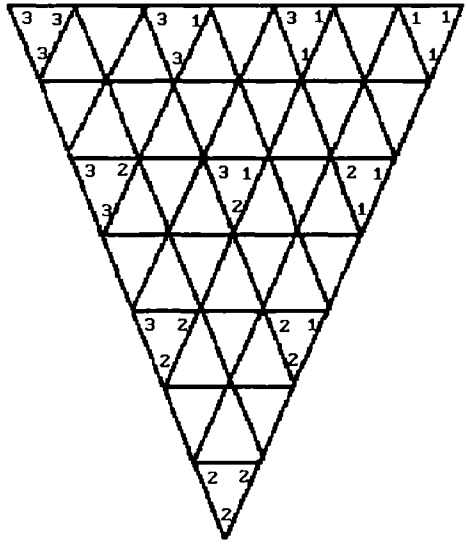

Figure 6. Welby triangular model

vertices are flipped with thirdness occupying the upper left vertex, and firstness the upper right vertex. The third complication is the inclusion of some thirty-nine other possible configurations of the tri-relative influence because what is in operation is the trichotomous influence of the categories as represented by the Modalities of interpretants. Nevertheless, as always Peirce uses the Rhematic Indexical Legisign to be the central anchor of the 1908 diagram as well as the original one from the "Division of Signs". The major difference here is that what is emphasized is the Modality of the sign, and modality goes along way toward undercutting a too rigid hierarchical thinking.

Peirce's triangular representations are, in fact, more revealing than the various tables of Hartshorne, Weiss, Burks, Lieb, Sanders, myself, *et al.* First, the four signs required by the three correlate rules are clearly the three corners (vertices) and the center of Peirce's triangular boxes—a triple possible (firsts) in an upper corner, a triple law (thirds) in the other upper corner, a triple existent (seconds) at the bottom, and a full mix of all three in the center. The other relations in the triangle (six in the "Division" and forty-five in the Welby

draft) also follow the lead of their closest vertex with firsts and possibles toward the left (right for Welby), thirds and laws toward the right (left for Welby), and seconds and existence toward the bottom. In the "Division" this influence is expressed somewhat cryptically by Peirce's descriptions of the diagram's darker bars: "The affinities ... are exhibited by arranging their designations in the triangular table ... which has heavy boundaries between adjacent squares that are appropriated to classes alike in only one respect" (2.264). However, in this Welby scrap, "classes alike" are shown by the coded series of each internal triangle with similar classes being along the sides of whole triangle.

Secondly, the Semeiotic is by its very nature a construct of thirdness, and the correlate rules prioritize that thirdness because they must, but as prescission demonstrates, it is possible to separate out any number of items both hypothetically and theoretically. In many ways, the types of signs and classes of signs are exactly that: hypothetical and theoretical separations of various aspects of the sign. It is all too easy for us, in our post-signed universe, to think that the name of an item is equal to the item, and that the order of the names is equal to the order of the objects, but if Peirce's struggle with "assertoric impurity" is to mean anything, then one should not take the sequence to be necessarily hierarchical except in the sense that the sequence has been generated from a sign universe which is bounded by an absolute first of total possibility and an absolute second of total individuality. Of course, such boundaries leave a wide swath to be filled by the Semeiotic in ordinal contemplation, but the nature of the sign, as suggested by the approximation of the Final Interpretant, is never to escape those boundaries, and the variations between need not be sequenced as a hierarchy except as the nature of thirdness demands.

Thirdly, the sequences of signs just does need not be a hierarchy in a visual, diagrammatic sense. The advantage of the diagrammatic is its spatial limitation combined with its global presentation, and one could as easily start in one of the other corners or the center of the stacked boxes and follow a different or reversed sequence of the ten classes of signs, for all these are triadic relations. Peirce's sequence is a natural sequence for a logical demonstration, but the sequence I will use in tracing degeneracies in the next chapter will start at the center and spiral up[44] and to the right to follow around to the Qualisign to reflect the uses of prescission, the fact that we generally always operate from signs of a "mixed" sequence, and a belief that some-

thing specific needs to be done with central relation of the Rhematic Indexical Legisign.

But I should point out that there are actually a number of different possible sequential orders. Peirce in his triangular table of stacked boxes (2.264) counts from the Qualisign, down at a right diagonal, goes back to the first layer and counts down again to the right, etc. But one could as easily count from the Qualisign to left across the first layer, or one could count down using a left diagonal as Peirce seems to do in the draft to Lady Welby. Or following the lack of specificity in the correlate rules and assuming that any aspect of the sign can be the object of attention of a correlate rule, one could count right or left from the Argument (X), right or left from the Dicent Indexical Sinsign (IV). Or following my pattern of counting from the center, one could count through six possible other paths, three clockwise and three counter-clock wise.

Thus there are eighteen possible paths, or six more than what Buckminster Fuller called twelve degrees of freedom/restraint in a tetrahedron (1975:103). I am not going to count them out, but I invite you to trace those relations. If you do, you will see that the overall relations established by the correlate rules, as Peirce wrote them, will hold. The numerical order is only a sequence; it is not a hierarchy. The counting is cardinal and indexical, not ordinal and habitual, as Peirce might say! So one need not get too anxious over the sequence, but one also need not get too invested in one particular sequence; to do so is to prioritize one category over the others—a position which Peirce always sought to critique for its blindness to the importance of all three categories.

Finally, I have always had some difficulty in understanding how the nine squares of the tri-square become the ten squares of the triangular table, even though that table was some of the impetus for my original pyramidal models. Since my own mathematical sense is very concrete, I have tried to conceive of how it might work physically, and surprisingly it will work! If one thinks of the whole block of nine squares and the tenth square (the reversed, full sign of the second correlate rule), the nine squares can fold out to produce an arrangement like the triangular Table. If the tri-square blocks are numbered one to nine (starting at 11.21 and working horizontally and consecutively to 13.23, square one, two, and three can flip and individually pivot up and to the left, four can flip to the left, seven folds down,

five and eight flip together as a unit straight down, and six and nine flip and pivot, as a unit, up and to the right. This will leave the now

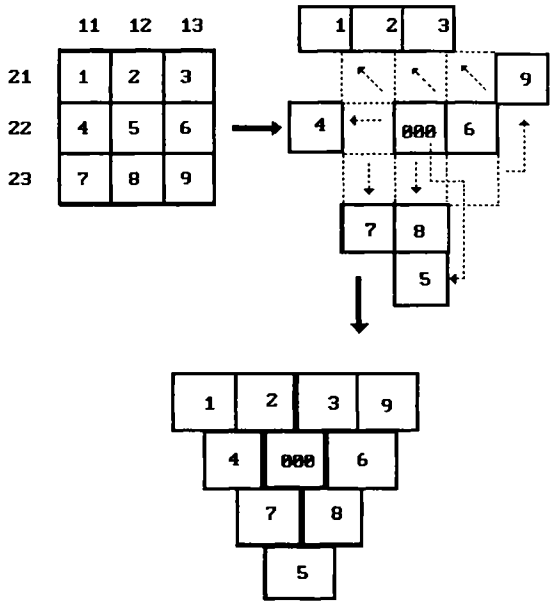

Figure 7. Stacked boxes in to triangular table

empty original boundary as the central square. Finally when the dotted lines from the original tri-square are collapsed and with some straightening and darkening of lines, the triangular table appears visible. I suppose this folding out schema is no more convoluted than "trichotomous division" or the relations tables of other scholars, but it does reflect my arguments that the classes of signs need not be a hierarchy. They can demonstrated by a nested cluster, topological puzzle, tree diagram (Sanders 1970:6), etc. Nevertheless, Peirce was concerned with the "truth of conditional propositions" (5.528), and the triadic relationships between the sign and its functions in truth, logic, and growth.

4.2. Peirce's classes of sign

When Peirce identified his ten classes of signs in the "Division of Signs", he used the three correlate rules to trace, apparently, the horizontal relations of a tri-square composed of a trichotomy of firstness, secondness, and thirdness and a trichotomy of representamen, object, and interpretant. By the correlate rules Peirce generated his classes of signs in the following sequence:

Table 1 The ten classes of signs

I	Qualisign;
II	Iconic Sinsign;
III	Rhematic Indexical Sinsign;
IV	Dicent Sinsign;
V	Iconic Legisign;
VI	Rhematic Indexical Legisign
VII	Dicent Indexical Legisign;
VIII	Rhematic Symbol;
IX	Dicent Symbol; and
X	Argument.

Of course, all of his relations are triadic, and all but two utilize directly "contiguous relations" in the tracings on the original trichotomized tri-square (2.264).

However, two of his ten, the Iconic Legisign (V) and the Rhematic Symbol (VIII) are developed without contiguous relations because of the nature of Legisigns to be General signs having replicas and the nature of qualisigns to be embodied in Sinsigns. These two classes[45] use non-contiguous relations to reflect the most extreme degeneracy that Peirce discovered in the categories, and they are respectively a first of a third and a second of a third—both prescissive abstractions traced by horizontal sign flow. Also, the lesser degree of degenerate signs are embodied in the Iconic Sinsign (II), the Rhematic Indexical Sinsign (III), the Dicent Indexical Legisign (VII), and the Dicent Symbol (IX). These signs, while being contiguous, are relations which move shifting at an angle from one trichotomy to the other and consequently are skewed toward one trichotomy rather than the other.

How the trichotomy of the categories interact with the other trichotomies was an important consideration for Peirce, for out of the interaction of the trichotomies comes the whole classification of signs. In fact in this draft letter to Lady Welby he actually rearranges the sequence of the ten classes of signs so that the sequence now reads:

Table 2 The ten classes of signs rearranged

1. Qualisigns
2. Iconic Sinsigns
3. Iconic Legisigns
4. *Vestiges*, or Rhematic Indexical Sinsigns
5. Proper *Names*, or Rhematic Indexical Legisigns
6. Rhematic Symbols
7. Dicent Sinsigns (as a portrait with a legend)
8. Dicent Indexical Legisigns
9. *Propositions*, or Dicent Symbols
10. Arguments (8.341)

In this later reading only four of the classes have kept their original places in the new sequence: the Qualisign, the Iconic Sinsign, the Dicent Symbol, and the Argument. The others seemed to have played musical chairs with their class position, but such is not the case. Rather than the original reading of the "Division of Signs", Peirce now reads them, starting at Class One, with a repeating diagonal line up and to the left, coming back each time to the lower left tier to retrace the diagonal line. It seems that this pattern will give isolated priority to the Qualisign rather than the Argument of the original reading. Still, as I have pointed out, one must remember that this triangular table can be read from any of the three apex boxes, depending, I suppose, on what aspect of the trichotomous relation one wishes to emphasize.

So let us then compare the two sequences to see if any major differences exist beside the place in a sequence:

Table 3 The two sets of ten classes of signs compared

I	(1)	Qualisign;
II	(2)	Iconic Sinsign;
III	(4)	Rhematic Indexical Sinsign;
IV	(7)	Dicent Sinsign;
V	(3)	Iconic Legisign;
VI	(5)	Rhematic Indexical Legisign
VII	(8)	Dicent Indexical Legisign;
VIII	(6)	Rhematic Symbol;
IX	(9)	Dicent Symbol; and
X	(10)	Argument.

The two structures are quiet similar except for the isolated emphasis I mentioned for the Qualisign and the Argument, and the central sign has moved up one position in the Welby sequence. The same would be true if one read (right or left) the triangular table starting at Class Four, the Dicent Indexical Sinsign; the Qualisign would be the terminus of a right-to-left reading, and the Argument would be the terminus in a left-to-right reading, and in both instances the Rhematic Indexical Legisign would be in the fifth position. Thus, two-thirds of the readings of the triangular table would put the Rhematic Indexical Legisign in the fifth position, and one-third would put it in the sixth position.[46] That is probably the reason that when the "scrap" of the forty-nine triangles (8.376) is offered to Lady Welby, he still puts the Rhematic Indexical Legisign in the center of the table, but with his new number coding and its emphasis on Modality (Possible, Actual and Necessary), that central sign interacts more clearly with the signs operating in the various Modes.

Thus, Peirce's concept of the classes of signs is a particularly generative device that allowed him to conceive of some 59,049 signs, but more importantly, by understanding the relationship of the trichotomies, Peirce seemed more able to understand the "ideal" identity between Logic and Semeiotic, for as he told Lady Welby:

> "Significs" sounds to me narrower than Semeotic [sic], since *signification* is only *one* of the *two* chief functions of signs; .... Significs appears to be limited to the study of the relations of Signs to their Interpretants; .... On the other hand Logic is more

> interested in the *Truth* of Signs; i.e. in their relation to their Objects. But I am satisfied that in the present state of the subject, there is but one General Science of the nature of Signs. If we were to separate it into two, ... we should be in imminent danger of erecting two groups of one member each! (8.379)

He saw the task of establishing the unity of Logic and Semeiotic as yoking the sign's function to both interpretants and Objects, and that seems to have been the problem of classification all along.

So Peirce continually considered the problem of the classification of signs. Not only did he attempt classification in the "Division of Signs", he also pursued the problem in the 1908 letter draft to Lady Welby. There he opined that, "It seems to be that one of the first useful steps toward a science of the *semeiotic*, or the cenoscopic science of signs, must be the accurate definition, or logical analysis, of the concepts of the science" (8.383). Then a paragraph or so later he gives "The Ten Main Trichotomies of Signs (as they are apprehended by me 1908 Dec 24)" (8.345). Of these trichotomies of the sign, one is in relation to the sign itself, three are in relation to the Object (one Immediate and two Dynamical); and six are in relation to interpretants. Since I have already treated the material from this letter and will be making further use of it, I will not try to repeat here all of Peirce's arguments, but it will help to have a synopsis of his points in the letter, for it is his last attempt at the classification of signs.

Table 4. A synoptic collection of terms for sign classes (8.344-79)

FIRSTNESS (potentiality)	SECONDNESS (actuality)	THIRDNESS (fact)
0. As Modes of Presentation to the Mind		
the Immediate	the Direct	the Familiar (8.352)
I. As to the Mode of Apprehension of the Sign itself		
A. Signs Present in the Mind:		
(in themselves)	(opposing effort)	(memory stored)
{Feelings}	{surprising element}	{the General}

B. Modes of Presentation of Sign in *hic and nunc*

POTISIGN	ACTISIGN	FAMISIGN
(merely possible)	(experience)	(general)

II. As to Mode of Presentation of the Immediate Object

A. Modes of Presentation of Objects:

mere ideas	compelling attention	rationally recommend
Descriptives	Denominatives	Distributives
	Designative	Copulative
(character)	(direct)	(logical)

III. As to Mode of Being of the Dynamical Object

Possibles	Occurrences	Collectives
Abstractives	Concretives	Collections
(immediate)	(color, mass, etc)	(Man, Charlemagne)
		(Mankind, Human Race)
{Mark}	{Token?}	{Type}

IV. As to Relation of the Sign to its Dynamical Object

ICON	INDEX	SYMBOL

V. As to Mode of the Immediate Interpretant

Ejaculative	Imperative	Significative
felt	giving utterance	

VI. As to Mode of Being of the Dynamical Interpretant

Sympathetic	Shocking	Usual
Congruentive	Percussive	

VII. As to Relation to the Dynamical Interpretant

Suggestive	Imperative	Indicative

VIII. As to the Nature of the Normal Interpretant

Gratific	Produce action	Produce self-control

IX. As to Relation of Sign to the Normal Interpretant (as to the Nature of the Influence of the Sign)

Seme (simple sign)	Pheme (antecedent & consequence)	Delome (antecedent, consequence, principle of sequence)

X. As to Triadic Relation of Sign to its Dynamical Object and to its Normal Interpretant (as to Nature of Assurance of the Utterance)

Instinct	Experience	Form

Although after giving an account of the ten trichotomies, Peirce defers to Lady Welby's expertise with interpretants, he then "add[s] scraps" (8.376) to the letter which recast his earlier rendering of the corollarial classification of signs in "The Division of Signs" into the more triangular form discussed earlier. Briefly he mentions that his signs may be discussed in terms of three modes: a "Possible Modality, that of an Idea" an "Actual Modality, that of an Occurrence", and a "Necessary Modality, that of a Habit". These are, of course, the same categorical states, but Peirce's view has grown increasing complex, and it will help to look at the various types of signs as classes of signs. So rather than discussing the ten specific classes, I will approach the nine types as classes in preparation for the following chapter, in order to emphasize the trichotomous nature of

the tri-square and to underscore how close the types of signs are to the classes of signs as Peirce conceives them. Such an approach is preparatory for the following chapter, but my major reason is to avoid separating the types from the classes since Peirce's classes are no more than the horizontal tracing, or "division" to be precise with Peirce's language, of the nine types on a tri-square.

4.2.1. The qualisign as class

As Peirce describes it, the Qualisign class is, automatically by the tri-relative influence and specifically, a Rhematic Iconic Qualisign (2.254) exemplified as "a feeling of red". What is emphasized is the similarity of the feeling, or "common ingredient", to the object and the "mere logical possibility" of being used in a rhematic structure; that is, once prescissively established, the qualia can become qualisigns which, when predicated because of some similarity or classification, can serve in rheme. Thus, one sees, in the 1908 draft of a letter to Lady Welby, that the marginal limits of the sign is expressed in its iconic qualities as a descriptive, in its indexical qualities as a denominative (or designative), and in its logical qualities as a copulative. These are essentially the first, second, and third of the Qualisign described as potisign, which Peirce had demonstrated in the 1903 "Division of Signs", by tracing the horizontal vectors through the tri-square, and again he was very brief. But rather than emphasizing indexical possibilities at all, he said,

> A Qualisign ... is any quality in so far as it is a sign. Since a quality is whatever it is positively in itself, a quality can only denote an object by virtue of some common ingredient or similarity; so that a qualisign is necessarily an icon. Further, since a quality is a mere logical possibility, it can only be interpreted as a sign of essence, that is, a Rheme. (2.254)

Here Peirce has emphasized possibility all through the Qualisign in order to stress, no doubt, its marginal qualities, but qualia used in icons will be used "to denote an object by virtue of some common ingredient or similarity" to another object. But to qualify his statement that way is to begin to emphasize the "usefulness of some signs", and to think in terms of "a pure demonstrative application

of the sign" (2.287). It is to begin to consider the similarity of ideas which is "a judgment concerning a minimum of information" (2.228n), not the prescission of a feeling.

4.2.2. The sinsign as class

The Sinsign is a powerful type of a token, for it is a class for all signs in the sense that any physical occurrence of an individual, particular, and singular sign token will be an ensignment of the full pattern of thirdness. The Sinsign is the doorway to all signs as Peirce's three classes of Sinsigns and six classes of Legisigns suggest. The Iconic Sinsigns, the Rhematic Indexical Sinsigns, and the Dicent Sinsigns are all specific horizontal vectors of the Sinsign. Thus, the Iconic Sinsign, given by example as "an individual diagram" (2.255), will be based on "likeness purely", will function as a class name, or Rheme, and will embody a Qualisign. The Rhematic Indexical Sinsign, given by example as "a spontaneous cry" (2.256), will be based on a causative relation, will subsume an Iconic Sinsign "of a peculiar kind", and will cause attention to be paid to the Object denoted, as a kind of rhematic class name of denotation. And the Dicent Sinsign, given by example as "a weathercock" (2.257), will give information about its object because it is indexical and actual.[47] It will embody both an Iconic Sinsign and a Rhematic Indexical Sinsign, and the mode of the syntactic joining of the two will have significance. Peirce does not explain the significance, but obviously it relates to the two dimensions of the Sinsign, and if the embedded qualisign is peculiarly similar, the joining will be iconic, and if it is contiguous with an emphasis on "limited range", it will be indexical. But both will be singular examples of replicas of Legisigns. Therefore, the mode of syntax will reflect the kind of thirdness operating in this class of signs—one which includes a prescinded firstness emphasizing qualities, or one which includes a prescinded secondness emphasizing factuality. Either way, one is able to engage in class naming, propositional logic, predication, or prediction; the Sinsign allows the ensignment of perception of time and space, regularity and rule, growth and disorder (5.299).

4.2.3. The legisign as class

Because of the general nature of the Legisign and the import of the instance of its occurrence as replica, it turns out to be one of the more powerful of the nine types of signs. It actually generates six of the ten classes of signs, three of which Peirce clearly identifies and three of which he implies. The three discussed specifically as Legisigns by Peirce are the Iconic Legisign, the Rhematic Indexical Legisign, and the Dicent Indexical Legisign, but the other three which are discussed as different classes are also legisigns—the Rhematic Symbol (Legisign), the Dicent Symbol (Legisign), and the Argument (Symbolic Legisign). Since Peirce seems to identify this second group more with other types of signs, I will not discuss them there, but the fact that they are also Legisigns should not go unnoticed.

The Iconic Legisign, given by example as "a diagram, apart from its factual individuality", will "call up in the mind the idea of a like object" (2.258). It will be both a icon and a rheme and both a Legisign and a Sinsign. The Rhematic Indexical Legisign, given by example as "a demonstrative pronoun", will "be really affected by its Object in such a manner as merely to draw attention to that Object" (2.259). As a replica, it will be a Sinsign of a peculiar kind reflecting the contiguity of the indexical mode. Finally, the Dicent Indexical Legisign, given by example as "a street cry", will require that "each instance of it to be really affected by its Object in such a manner as to furnish definite information concerning that Object" (2.259). There is something of the iconic here, but the predominate mode has more to do with causative aspects of the index. All three of these classes of signs, of course, operate on a general basis, and thus, the Legisign, as a Famisign, is essentially the *langue* of *parole*; it is the general structure of the sign system that allows the specific occurrences of individually used signs, and its participation in the thirdness of rule and law make it a full fledged sign class.

4.2.4. The icon as class

The Icon (along with the Index) is one of two types of "non-symbolic thoughts" (6.338) which provide the synthesis of thought by pictures, diagrams, or images. Its nature as a sign is that of "those whose relation to their objects is a mere community of some quality

and these representatives may be termed *likenesses*" (1.558). Its reference is to the ground of the sign (2.92), and it substitutes by likeness (2.276). As one of Peirce's most succinct definitions puts it:

> An icon is a representamen of what it represents and for the mind that interprets it as such, by virtue of its being an immediate image, that is to say by virtue of characters which belong to it in itself as a sensible object, and which it would possess just the same were there no object in nature that it resembled, and though it never were interpreted as a sign. It is of the nature of an appearance, and as such, strictly speaking, exists only in consciousness, although for convenience in ordinary parlance and when extreme precision is not called for, we extend the term *icon* to the outward objects which excite in consciousness the image itself. A geometrical diagram is a good example of an icon. A pure icon can convey no positive or factual information; for it affords no assurance that there is any such thing in nature. But it is of the utmost value for enabling its interpreter to study what would be the character of such an object in case any such did exist. (4.447)

Thus, the Icon is marked by five essential characteristics: its similarity as an image to an object, its residence in the ground of quality, its potential without having existential assertion or factual information, its interaction as an appearance with an interpreter's consciousness, and its function for predication and study of objects in classification. Is it no wonder that Peirce continually returned to the icon?

Peirce reference to "a pure icon" suggests that there is a range of icons, I suppose, from a minimum of extant information and a maximum of vividness (as in "HOT!") to a maximum of information and a minimum of vividness (in an equation like $e=mc^2$). Of course, there are found icons and constructed icons, and the more they are constructed the more they participate in thirdness. But as a first, the icon is necessarily related to a qualisign in that the qualities of similarity need not be extant. First of all, they are not caused; they need not exist; they can be either conventional or resident as only prescissions. The icon utilizes the ground of the sign to create a colligation of experiences (as percepts) to spin the likenesses of things into the very fabric of our signed reality. Like the qualisign, the icon is full of potential, but the secondness of it relation to objects begins to introduce the possibility of actuality, "in common parlance".

Thus, it is its role as a predicate and an image of form which allows one to "study what would be the character of such an object" that it represents. Of course, as a class of signs it can only exist as iconic sinsign, for then its potentiality is embodied in a pure secondness. Second, the icon is a primary tool of consciousness; it is the interpreter's model for observation, judgment and inference that allows one to engage is discovery and demonstrative argument. So, it can be torqued to construct models which are used to explain the extent world, but that explanation will still be subject to the inescapable constraints of secondness and the regularities of thirdness. Finally, the icon as a prescissive tool is primarily concerned with found characters rather than constructed ones, but within the spectrum of abstractions, it can quickly move toward argument as a constructed icon to explore those particular characters of the found icon. For example, Peirce's sense of "three-ness" leads to a cardinal triad which leads to an ordinal trichotomy, which then leads to trichotomous division which leads eventually to trichotomies of trichotomies and the whole Semeiotic. Nevertheless, it is all too easy from the standpoint of full thirdness to think of the Icon as a primitive, simple sign function, although Peirce did not think so. The visual quality of human cognition, particularly Peirce's, and the abstractive qualities of the sign system make it quite clear that the Icon is an essential sign.

4.2.5. The index as class

As a class, the index does not exist by itself, no more than there is an instance of a pure index. The index, because it is a second of secondness, is always in co-relation to the other classes; in fact, the index, because of its existential quality shows itself to be tied directly to seven of the ten classes. The Rhematic Indexical Sinsign, the Rhematic Legisign, the Dicent Indexical Sinsign, and the Dicent Indexical Legisign are all indexical by name and role, and the Rhematic Symbol, the Dicent Symbol, and the Argument may contain indices; so it is a powerful sign relation even if one cannot assign casualty to it. It seeks to merge the ideal and the real, for it is

> the kind of representamen ... [that] is a real thing or fact which is sign of its object by virtue of being connected with it as a mater of fact and by also forcibly intruding upon the mind, quite

> regardless of its being interpreted as a sign. It may serve to identify its object and assure us of its existence and presence. But very often the nature of the factual connexion [sic] of the index with its object is such as to excite in consciousness an image of some features of the object, and in that way affords evidence from which positive assurance as to truth of fact may be drawn. (4.447)

Thus, the significative force and value of the index do not provide proof; they simply provide evidence, and proof must come from other aspects of the sign.

4.2.6. The symbol as class

As I have indicated Peirce gives the symbol/sign almost top priority, for "Signs [are] the only things with which a human being can, without derogation, consent to have transactions, being a sign himself" (6.334). This transaction takes place through the logic of tri-relatives in semiosis, and the symbol as a class of signs provides the logical and epistemological function Peirce associated with it. Of all ten classes, Peirce gives more detail about the Rhematic Symbol and the Dicent Symbol than any of the others. If thirdness is to be seen as the most necessary cause of human intellect, it is no wonder than these two (along with Argument) form the anchoring classes of Peirce's sequence of signs. As he traces the Rhematic Symbol, it touches almost every other class of signs by replica or embodiment, and because of the propositional bent of Peirce's logical analysis, it is the thrust of what we do when we sign. It connects with the Dicent Symbol, or ordinary proposition, to give flesh to the arguments and assertions of our understandings. Yet ironically, both of these are legisigns which have to find their expression in replicas, for the very thirdness which gives them their logical and legal power makes them general and undescriptive. The great engine of abstraction still has to run on the fuel of potentiality, the qualia in icons, and to utilize the "mechanical" force of brute and individual secondness in the index. Thus, the tri-relative influence marks even the symbol, and for all of its massive importance, it is, after all, built of other signs.

4.2.7. The rheme as class

The most important thing to observe about the rheme is that because it is a first of thirds, it is crucial to generating the ten classes of signs. In fact, it shows itself to be intimately related to all ten of Peirce's classes. Even though its name is only given to six of the classes, the other four classes have nested rhemes in their descriptions. Obviously, this prominence is by virtue of its position in the tri-square, but the rheme, like the qualisign and icon, has more than a spatial advantage; it may be a quintessential sign, at least numerically if not epistemologically. As the first embodiment of a character and quality, it is the breath of the sign giving life to all the semiotic investiture that logic will use in its operations. The firstness of the rheme is preparatory to all semiotic activity, yet ironically, as the prescinded foundation of semiosis, it is at the very margin of signing, which can be detected only from the perspective of thirdness. It is, all in all, a wonderfully paradoxical sign, and if we can realize its potential, its use may help us to understand not only how cognition works, or how logic is related to semeiotic, but also how living systems utilize the infinite degrees of vividness to maintain themselves and operate with sentience.

4.2.8. The proposition as class

The proposition, as dicisign, is a powerful class of sign, particularly for Peirce's epistemological concern about how secondness and firstness can be ensigned or how semiosis can actually deal with the ultimate separation between the Dynamic and Immediate Object. Given his arguments about the dicisign in the Syllabus of 1902, the Dicent Indexical Sinsign (IV) should be, as it is, one of the four anchoring points of the ten trichotomies. By the three correlate rules it is a matched triad of three seconds and three actualities. It really does afford "information concerning its Object" (2.257) even if through the tortuous path of the double object. It, thereby, is "a genuine Index" about "actual fact". But it also involves "an Iconic Sinsign to embody the information and a Rhematic Indexical Sinsign to indicate the Object to which the information refers" (2.257), and it is represented by a doubling interpretant that connects both the sign and the Object (2.311). Its "mode of combination, or Syntax, of these two [and more] must also be significant" (2.257) as

to whether the combination is a prescissive or a hypostatic abstraction. The Dicent Indexical Sinsign is also generalized into the Dicent Indexical Legisign (VII) which has found its expression in its replica as the Dicent Indexical Sinsign. Thus, the propositional form functions both logically and semiotically.

The other class of signs that is expressed as an "ordinary proposition" (2.262) is the Dicent Symbol Legisign (IX), but as a matter of categorical trichotomization, the Dicent Symbol operates more from the "association of general ideas. Although this too must find its expression in a replica as Dicent Indexical Sinsign, it, like the symbol, is a category that does not include all replicas. The generality of the Dicent Symbol produces a replica of a peculiar kind: "This is easily seen to be true when the information the Dicent Symbol conveys is of actual fact. *When the information is of a real law, it is not true in the same fullness* [my emphasis]. For a Dicent Sinsign cannot convey the information of law" (2.262). I do not know whether Peirce here means "a real law" in the sense of jurisprudence or in the sense of "natural law", but I suspect semiotically it makes no difference, for a law, of either kind, is an abstraction, that needs the embodiment of the sheriff interpretant. The inescapable presence of approximation is with us still even in "natural law", and the Dicent Symbol, even in the hierarchy based on hypostatic abstraction is a reminder of that approximation; so the replica is true "only in so far as the law has its being in instances" (2.262)—something which the Community of Inquirers will search for, but find only hypothetically or within a specific frame "of a peculiar kind".

4.2.9. The argument as class

Peirce defines the class of Arguments as

> a sign whose interpretant represents its object as being an ulterior sign through a law, namely a law that the passage from all such premisses to such conclusions tends to the truth. Manifestly, then, its object must be general; that is, the Argument must be a Symbol. As a Symbol it must, further, be a Legisign. Its Replica is a Dicent Sinsign. (2.263)

On the surface, one may be tempted to read this definition as if it applied to Argumentation exclusively, but that would be a mistake. Given the distinctions that Peirce has made in informational states, in the assertion and signification, in the functions of logical interpretants, and in secondary and primary objects, the key word here is "ulterior". That is, the interpretant function represents the Object in ways which are not immediately evident, and that inference or interpretation will be necessary to establish the law of the sign. If symbols are the "warp of reason" (4.531), then Arguments are the woof of reason, and the whole epistemological cloth is woven of signs. Thus, there would be quite naturally three sub-divisions of Argument into deduction, induction, and abduction—those various processes of logic with which Peirce occupied himself as a logician, but I also believe that are part of the process of "states of information" that are determined by the interpretant—at least as a tendency.

Peirce originally offers the trichotomy of arguments this way. Deduction's "Interpretant represents that it belongs to a general class of possible arguments precisely analogous which are such that in the long run of experience the greater part of those whose premisses are true will have true conclusions" (2.267). Induction's "Interpretant does not represent that from true premisses it will yield approximately true results ... but does represent that if this method is persisted in, it will in the long run yield the truth, or an indefinite approximation to the truth" (2.269). And abduction, although not mentioned specifically with an interpretant, properly uses an interpretant to establish "a method of forming a general prediction without any positive assurance that it will succeed ... its justification being that it is the only possible hope of regulating our future conduct rationally" (2.270).

Noticeably this trichotomy offers a first, second, and third of Arguments with degrees of degeneracy parallel to the categories. Deduction, for example, is either necessary or probable with necessary dividing into corollarial or theorematic arguments. Thus, necessary arguments "have nothing to do with any ratio of frequency, but profess that from true premisses they must invariably produce true conclusions" (2.267). They are genuine deductions which have two degeneracies: the corollarial, "which represents the conditions of the conclusion in a diagram and finds from the observation of this diagram ... the truth of the conclusion"; and the theorematic, "which ... performs an ingenious experiment upon the diagram, and

by observation of the diagram, so modified, ascertains the truth of the conclusion" (2.267). Thus, these degeneracies, as a third of characters, take on both a first and second relation to a diagram, one which is iconic and one which is indexical. A probable deduction, which is a very large category of Peirce's logical critique, is one concerned with "ratios of frequency", and if its interpretant represents them with "absolute certainty", then it is statistical deduction, but if its "Interpretant does not represent that its conclusion is certain" (2.268), then it is a probable deduction proper. In this case, the degeneracies, as a third of Facts, take on a second and third relation to the objects of the world, one which is an approximation and one which is a rule.

Secondly, induction, which is also concerned with ratios of frequency, shows itself as either "an Experimental Verification of a general Prediction" or as an "Argument from a Random Sample" (2.269). The former because of the specificity of its question in the prediction is a genuine induction, but a random sample argument will only suggest that "the ratio found ... will hold in the long run" (2.269). The last, but first, kind of argument is abduction, which has only the one form of possibility; it is essentially the process of hypothesis and is closely linked with the process of prescission, but with a slightly different emphasis. Prescission only gives possibilities, but abduction also gives "the only possible hope of regulating our future conduct" (2.270). It should be obvious here that the trichotomy of arguments is centrally concerned with how semiosis and epistemology are interrelated. Knowledge is apparently, by definition and semiotic structure, a process of thirdness regularity applied to the resistance of secondness with a necessary interest in the future possibilities of firstness. Thus, at this level the categories and their ensignments are shown woven together so as to form the fabric of our knowledge, which then can be separated only by prescission.

Deduction, induction, and abduction seem fairly simple and straight forward as a trichotomized classification of arguments, but that trichotomy was complicated a great deal as Peirce thought more on it. To Lady Welby, he mentions six trichotomies of interpretant relations, which begin to articulate what the "states of information" are in the argument. They are, in a truncated form, collated from the two extant versions in the Welby correspondence (8.337-44):

Table 5. The six trichotomies

Mode of Presentation of Immediate (signified) Interpretant; Hypothetic, Categorical, and Relative (arguments submitted, urged, or contemplated)
Mode of Being of Dynamical Interpretant; Sympathetic, Shocking, or Usual
Relation of Sign to Dynamical interpretant; Suggestive, Imperative, Indicative
Nature of the Normal (Eventual) Interpretant; Gratic, to produce action, or self-control
Relation of Sign to Normal Interpretant; Seme, Pheme, or Delome
Triadic Relation of Sign to Dynamical Object and to Normal Interpretant, or as to the Nature of Assurance of the Utterance, assurance of Instinct, Experience, or Form

Thus, the "supposed state of information" becomes very complex, for in addition to the emotional, energetic, and logical interpretants, there are at least eighteen other possible states of information to be determined by the interpretant. In most other thinkers, one would be tempted to think that the interpretant was simply a critical placebo to solve unsolvable difficulties, but if one follows the course of Peirce's arguments, the interpretant is that kind of complex ideation, and these six trichotomies of interpretants suggest some of the potentiality that exists in the distinction of assertion from pure signification. The error of thinking that the logical interpretant is the only interpretant is a rather narrow logician's viewpoint. Such an understanding is, as Peirce makes clear in his critique of Aristotle, to confuse the nature of approximation in semiosis. "This is an argument like the Achilles and Tortoise argument of Zeno, except instead of going forward in time, it goes backward" (2.27) trying to find the first Premiss. By a continual process of hypostatic abstraction and negation (2.356), the ensigned state of argument is paradoxically reduced to a limited series of argumentational premisses, whose assertive force and informational declaration are to be questioned.

> Thus, the conceptions involved in argumentation produce the conception of the rejection of argumentation. Hence, we are lead to generalize our idea of argumentation, ... to embrace also that

> [whole] process of thought. .... [But] as soon as we admit the idea of absurdity, we are bound to class the rejection of an argumentation among argumentations. Thus, as was said, a proposition is nothing more or less than an argumentation whose propositions have had their assertiveness removed, just as term is a proposition whose subjects have had their denotive force removed. (2.356)

Also, this particular chain of difficult reasoning ought to be familiar to twentieth century readers, for it is essentially a Peircean view of the Gödel's Theorem, the self-reflexive limit of a symbol system. What had been a prescissive process has turned into a hypostatic abstraction. The power of logic is the power of prescission which has developed the systems of terms, propositions, and arguments as a tracing of the pattern of inference and the effects of interpretants on their signs.

4.3. The rhematic indexical legisign as central sign

Although Peirce spends more than half of his time in the "Division of Signs" discussing the Eighth and Ninth Classes, the Rhematic Symbol and the Dicent Symbol, one of the more unusual classes of signs is the Rhematic Indexical Legisign, for it is different from other classes of signs in that it follows the second correlate rule. As a trace, it tracks from a first as third to a third as first, and it is the only class to function in both trichotomies through out all three dimensions. Plus, in Peirce's stacked boxes illustration, it is shown as the central class of signs, the only one bounded by all three "heavy lines" that Peirce uses to mark "classes alike in only one respect" (2.264), which are classes in "contiguous relations". Therefore, as my discussion here suggests, I think the Rhematic Indexical Legisign probably needs separate and special attention.

Peirce originally defines the Rhematic Indexical Legisign this way:

> A Rhematic Indexical Legisign [*e.g.*, a demonstrative pronoun] is any general type or law, however, established, which requires each instance of it to be really affected by its Object in such a manner as merely to draw attention to that Object. Each Replica of it will be a Rhematic Indexical Sinsign of a peculiar kind. The Interpretant of a Rhematic Indexical Legisign represents it as an Iconic Legisign; and so it is, in a measure—but in a very small

measure. (2.259)

Of course, such a definition is why he uses the example of a Proper Name to Lady Welby, but it also suggests some ambivalent directions in his thinking. On the one hand, it is exemplified by a demonstrative pronoun because it "merely" draws "attention to that Object", but on the other hand, how can a proper name be an Iconic Legisign except in the philosophical conundra that deal with proper names? What is the "peculiarity" of its Sinsign? Is it, as I have argued, because the Rhematic Indexical Sinsign's replica moves like a knight and is skewed toward two trichotomies rather than reflecting all three? Why is the iconic quality here only in "a small measure" in the interpretant?

Such questions seem difficult for Peirce because, at base, the issues of the Rhematic Indexical Legisign are those that have to do with the tensions between the rules of thirdness and the particularity of secondness—the problems of "impure" signification which exists in assertion. As will be argued in the next chapter and demonstrated in the Appendix, the Rhematic Indexical Legisign shows a great deal of frequency in the tracings of the rheme, the dicisign, and the argument because of Peirce's semiotic understanding of propositional argument. But more importantly, as regards my arguments in the next chapter, the Rhematic Indexical Legisign is a sign of a reversed nature. Its central position in either the triangular table of the "Division of Signs" or the triangular diagram of the Welby letter give the Rhematic Indexical Legisign an important position, for it represents, as no other sign, the full trichotomous relation. If the Qualisign, as a class, is thought to represent the more Possible Modality; the Dicent Indexical Sinsign, the more Actual Modality, and the Argument Symbolic Legisign, the Necessary Modality, then the Rhematic Indexical Legisign is truly the central sign which participates in all three corollarial trichotomies, all three categorical trichotomies, all three sign, trichotomies, and all three modal trichotomies, it is undoubtedly a central sign in the Semeiotic. Perhaps, as I will argue in the next chapter, its emphasis may be what allows Peirce to move the Logic of argument more toward the Semiotic of discovery, for Peirce's qualification of "however established" makes the Rhematic Indexical Legisign quintessentially different from the Argument Symbolic Legisign.

4.4. Terminology and the classes of signs

Of course, Peirce is not always consistent with his terminology, but he does consistently use the three trichotomies of the tri-square, with horizontal connections, to produce both the nine types of signs (2.243-53) and the ten classes of signs (2.254-65). But trichotomizing of the tri-relative influence does lead to the nine types of signs, and to some extent, the Representamen trichotomy of the tri-square focuses on signs as signs; that is, as the sign occurrences which potentially carry and stimulate semiosis as modeled by the base of the Definition Plane in my pyramids. So the relationship between Legisign and Sinsign is a relationship of a first potential being embodied in a second occurrence which demonstrates the rule of thirdness; yet the emphasis on the sign alone as a quality embodied in a single occurrence by a general principle is tempered with syntactic concerns. The Object trichotomy focuses on signs as objects; that is, as physical entities in a world resistant and in need of the channeling of the interpretant. This trichotomy is modeled by the base of the Denotation Plane in my pyramids.

So icons are embodied in Indices, and the differences between them will hinge on their relations with physical occurrences such as similarity and contiguity whereas the Symbol represents convention. The emphasis here is very much upon the logical problem of motivation and convention in sign usage and semantics. Finally, the interpretant trichotomy focuses on signs as interpretants; that is, those mediating aspects of signs that allow representamen to be connected with their objects. This trichotomy is modeled by the base of the Culture Plane in my pyramids. Thus, the rheme suggests the processes of naming and classification; the proposition suggests those of assertion and predication, and the Argument suggests those of syllogistic reasoning, but the trichotomized emphasis is on the logical problems of pragmatics. On the individual level of any tri-square, sign production and sign typology are part of the same process, and the tri-relative influence cannot be "resolved into pairs".

Moreover, because Peirce's nine types of signs yield ten classes of signs on the basis of embodiment, it is perhaps helpful to stress three terms from the Welby letters (8.347): "Potisigns", "Actisigns", and "Famisigns". Although different from Peirce's usual terminology, these terms follow the same categorical pattern, which Peirce classifies as "a clear apprehension". Still, Peirce insists on devel-

oping the ten classes of signs from the nine types of signs in the tri-square. One's first reaction to the numerical difference may be that the nine types of signs combined with the generic "sign" will account for the ten classes, but it is obvious that is not the case. Peirce is tracing relationships in his ten classes—relationships that deal with the fundamental problems of the interdependence of the categories; that is why he begins to talk of ten trichotomies of signs.

One's second reaction may be that Peirce is just being "triadomaniacal", but the embodiment problem is not just a problem of categories; it is an essential problem of classification which must be faced because of the nature of signs and their very peculiar occurrences within a general, ruled framework. So "Potisigns" are, I take it, essentially potential signs which are the nine types of signs derived from the first division of trichotomies, and "Actisigns" are actual signs which are the ten classes of signs derived from tracing the horizontal vectors of the nine signs on the tri-square.

However, such a tracing is not, I think, some bizarre scholastic logician's manipulations of materials to proliferate terminology, as Peirce's distinctions about icons and indices show, but rather it is an attempt to deal with four fundamental problems. The first problem is the issue of secondness in that all signs are, by their natures and Peircean definition, thirds, such as represented by the embodiment of the legisign in the actual sinsign, but they also have actual occurrences. The second problem is that of the ultimate separation between secondness and thirdness represented by the hypothetical, but non-existent (or conditional) Final Interpretant; thus, Peirce is insistent that an absolute first and an absolute second are mediated by a non-absolute third. This, leads to the third problem, which is the approximate nature of knowledge and the never complete matching of the Immediate Object with the Dynamic Object. And finally, the fourth problem is what Eco sees as the difference between sign typology and sign production. Peirce's types of signs and classes of signs tend to be a mixture of sign typology and sign production, and here I am assuming the nine types of signs represent sign production activities (thus, Potisigns), and that the ten classes of signs represent a sign typology of occurring signs (thus, Actisigns).

I am not sure I am correct here in calling for such a marked difference between Peirce's set of terms of the sign, for Peirce repeatedly discusses his types of signs, such as icons, indices, or symbols, as though they were extant signs. But since my emphasis has

been on patterns of sign production, I would insist this is a useful distortion and not a wholesale reconstruction of Peirce. Also, the problem of sign type versus sign production is itself a kind of semio-scholastic conundrum, which has no clear answer as suggested in the productive paradoxes of Saussure's *langue* and *parole*, of information theory's entropy and negentropy, of philosophy's reductionism and holism, or of systems theory's *macro* and *micro*. We simply do not understand very clearly how particularity and generality are interconnected in a system; and we find it relatively easy to confuse the interrelatedness of a system's parts with those differences which define the parts.

Chapter Five

Triadomany enhanced: a cubed tri-square

The cistern contains: the fountain overflows.
William Blake, "Proverbs of Hell"

Of course, although all signs are triadic, the nature of Peirce's diagrammatic thinking is that different aspects of the tri-relative influence, sign mediation, and triadicity can be highlighted by visual models for either inspection or exploration by an interpreter or for different purposes chosen by users. Therefore, I wish to extend Peirce's trichotomies, not in order to create new sign typologies nor to redeem degenerate signs, but in order to look at the possible functions of Peirce's sign types, sign classes, and degenerate signs. Although Peirce seems to think that the sign flow is from sign to interpretant to object, it is obvious that if, as Peirce argues, the sign relation is irreducible or if the trichotomies all can determine each other, then the sign flow can follow other directions. For example as Peirce argues, in his review of Lady Welby's *What is Meaning* in 1903, the role of the interpretant is "to put together the different subjects as the sign represents them as related—that is the main [i.e., force] of the Interpretant-forming" (8.179). As suggested by my pyramidal models, the sign relation can connect any one of a sign-object-interpretant triad with any other part or any other sign triad; so I want to look at the possibilities for putting together different subjects as they are related by signs.

5.1. A tri-square of interpretants

To examine this sign connecting, I would first like to develop an iconic model of the field of the interpretants as the tri-square discussed in the last chapter (Section 4.1.1). As I indicated there, I owe the idea for this model to Prof. Deledalle who has offered a list of the Types of the interpretants structured in Peirce's nine-square box of trichotomous division. Prof. Deledalle follows Peirce's notion that the interpretant acts as an "interpreter" between the sign and its object (1.541, 2.228, 8.179, and 8.368). He assumes that his Types of

interpretants are based on Peirce's transformative movement from correlate A to correlate B to correlate C, with A being the representamen (as a more generic term); B being the actual correlation; and C being a possible correlation. The resultant list is based on Peirce's original conception of the tri-square of the categories and the first trichotomy of signs and seeks to reflect Peirce's incomplete notion of a trichotomy of interpretants as suggested to Lady Welby (8.368-374).

But Deledalle, rather than using some of the neologisms that Peirce created in that letter, returns to terms that Peirce used consistently, and thus generates a tri-square of nine Types of interpretants which reflects the trichotomous division of the interpretant's three aspects by the categories. However, I will add to Deledalle's basic tri-square of

	potentiality 11	actuality 12	generality 13
	FIRSTNESS	SECONDNESS	THIRDNESSS
R(epresentamen)	Emotional	*Possible* ⇨ ⇠⇢	Immediate
	quali-interp	*syn-interp*	*logi-interp*
21	I e	I p	I i
O(bject)	Energetic	*Actual* ⇨ ⇠⇢	Dynamic
	iconic-interp	*indexical interp*	*symbolic* interp
22	I ng	I a	I d
I(nterpretant)	Logical	Habitual ⇨ ⇠⇢	Final
	rhematic interp	*dici-interp*	*argu-interp*
23	I l	I h	I f

Figure 8. Nine types of interpretants

interpretants in three ways. First, I will insert a "<-- -->" marker, at the border between secondness and thirdness, to represent the transcendent and transformative nature of the relation between stuff and the sign system and to represent the replica relation (2.247) where a certain third will have "an instance of its application". This will

also serve to represent the mediating position of thirdness between the boundaries of absolute firstness and absolute secondness, and it will model the need for full third signs to find expression in replicas. Second, I will also insert a "==>" marker, at the border between firstness and secondness, to represent the embodiment procedure in which one sign "involves" (2.245) another and gives the potentiality its expression of particularity; the direction of the arrow of embodiment is toward the actuality of secondness and away from the potentiated meaningless of the infinitude of firstness. And third, I will append to the name "Interpretant" some of the terms of sign typology used by Peirce in his ten classes of signs in order to underscore the similarity of process being used here.

Basically, the categorical names for the various kinds of interpretants will all be Peirce's terms although *"Possible"* and *"Actual"* come from Deledalle as much as from Peirce, even though Peirce tends to use them as marks of character more than typological terminology. Other italicized terms will be ones I have created to parallel, as closely as I can, Peirce's own names for the types of signs, and each class will have an icon of two or three letters, following Deledalle's convention of representing the Dynamic and Immediate objects as O_d and O_i except I will use normal typeface for ease of reading rather than subscripts. As use in the various tri-squares and exemplified in Table 7, I have used *e* for emotional, *ng* for energetic, *l* for logical, *p* for possible, *a* for actual, *h* for habitual, *i* for immediate, *d* for dynamic, and *f* for final to represent the nine generic types of sign function. So I have simply extended Deledalle's subscript convention to include the types of interpretants as well as objects so that one can have a trichotomized view of interpretant forming.

At first glance, it might seem that an "Immediate" Interpretant would be better described as a secondness since Peirce refers to an Immediate Object, or that a "Possible" Interpretant should be a firstness since he identifies the first with potentiality. However, Peirce defines the Immediate Interpretant as the "*right* understanding of the Sign itself, and is *ordinarily* called the meaning of the sign [my emphasis]" (4.536). Moreover, this is exactly the same pattern Peirce defines for the Intended Interpretant in "Three Types of Reasoning" (5.175). However, it is also true that in the Welby letter of 1908, (See Table 4) Peirce uses even a different set of terms for various interpretants; so this is a very cloudy area of terminology. All in all, I think I would prefer another term for the "possible interpretant"

since I tend to stress the potentiality and possibility of firstness (2.242). Perhaps, a better term would be "singular", or "embodied", but I have no desire, any more than absolutely necessary, to add to the supply of terms for interpretants. Since the position of a Possible Interpretant, as a first of secondness, does reflect the replica concept, the singular occurrence of a sinsign is only a possible, actual occurrence of a legisign. Moreover, since Deledalle's commentary on Peirce has been so insightful, I defer to his use of "possible interpretant" even if it may confuse my emphasis on sign potentiality.

This problem of terminology is an area of murky waters for speculation, but then that seems to have been Peirce's worry as well. He worked consistently and insistently to develop some clarity in the terms for various kinds of interpretants. For example, Peirce created a trichotomy of interpretants based on the firstness of signs (5.475) as the emotional, energetic, and logical interpretants, and he created a trichotomy of interpretants as thirdness of signs (4.536) in the immediate, dynamic, and final interpretants. And finally although the letter to Lady Welby[48] suggests a trichotomy of interpretants based somewhat on secondness (Hardwick 1977:84) as Destinate, Effective, and Explicit interpretants, the other terms which lead to these are terminologies which Peirce questioned in the draft of the letter in the *Collected Papers*. So I think Deledalle's use of *possible*, *actual*, and *habitual* is as reasonable as any extrapolation, and certainly somewhat less odd and more consistent with Peirce's life-time thinking.

5.1.1. Tracing a tri-square

I also defer to Deledalle's sense of reasoning about Peirce's ten classes of signs (2.254) which Deledalle believes can be derived from a tri-square although Peirce actually derives them from the rules of correlates (2.235). I am not sure I can replicate Deledalle's full thinking here,[49] but I will try to do so not only to indicate how a tri-square is read, but even more importantly to invite the reader to trace physically the relationships of the sign, for the tri-square works not only conceptually and visually, but also kinesically.[50] At the risk of straining a metaphor, you cannot just survey a plot of land conceptually or visually, there are necessarily kinesic operations for determining base level, line of sight, etc. By physically tracing[51] (as in Figures 10, 11, and 12), not just reading, a list of the relationships in

a tri-square, Peirce's list of the ten classes of signs and his concept of degeneracy become much clearer.

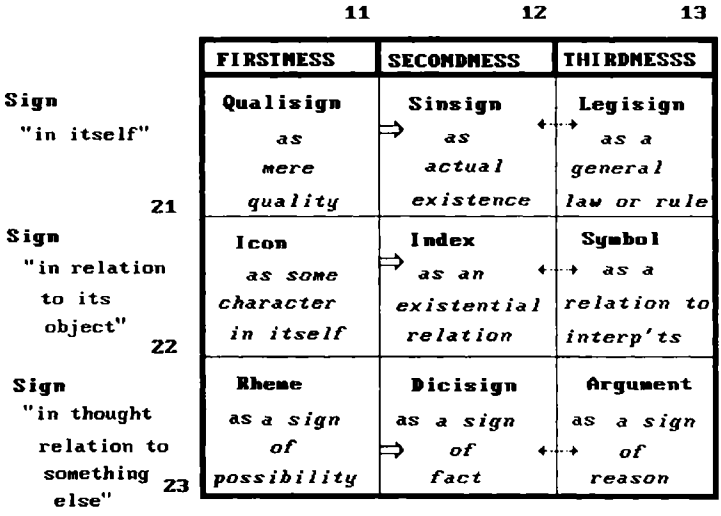

Figure 9. A division of trichotomies

Generally, a basic tri-square of the multiplied trichotomies of sign and categories can be used to generate Peirce's ten classes of signs even though Peirce diagrams the ten classes with a "triangular table... whose heavy boundaries between adjacent squares ... are appropriated to classes alike in only one respect" (2.264). Still, there seems to be a topological relation between the shape of a triangle (pyramid) and a square (cube) and since Peirce believes all medads and tetrads can be explained in terms of triads, it is important, I think, to see how the "triangular table" can be generated from the multiplication square of a division of trichotomies. As demonstrated in Chapter Four, such a tri-square is read from the bottom up since signs as we know them occur only as thirds and are referenced by the sets of number for each block, and I will use the categorical numbers, 11, 12, and 13, first as coordinate reference. Also, how genuine a sign is, is apparently demonstrated by how consistently it participates in all three levels of both trichotomies, and degeneracy is shown by how

remote a sign trace is from using all three of both trichotomies of the tri-square—a condition that should become clearer on physically tracing the ten classes of signs. Finally, because Peirce allows that there is no fourth category and that there is no degeneracy in firstness (that is, there is a lack of sign capacity past firstness or thirdness), the semiotic boundaries are represented here by the tri-square's boundaries with the right boundary apparently being the limits of a sign and the left boundary apparently being the limits of the signing system.

Thus, Deledalle sees Peirce as generating his ten classes of signs by tracing the horizontal relations of firstness, secondness, and thirdness

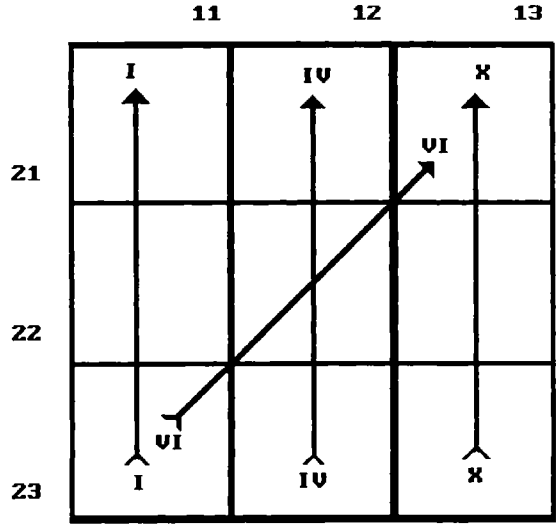

Figure 10. Four straight traces

according to the nature of the sign. So Peirce's first class of signs is the Rhematic Iconic Qualisign ("a feeling of red")[52], and it is shown as trace moving through the three squares of 11.23, 11.22, and 11.21. So there is only one "pure" sign of firstness. However, Peirce does contend that there is one degeneracy for secondness with two forms.

There is class two, the Rhematic Iconic Sinsign (a non-assertoric index like "an individual diagram"), which is shown by a trace moving from 11.23 to 11.22 to 12.21, (moving somewhat like a knight on a chessboard). There is also class three, the Rhematic Indexical Sinsign (a more genuine assertoric index like "a spontaneous cry"), which is shown by a trace moving from 11.23 to 12.22 to 12.21 also moving like a chessboard knight. The full genuine sign of secondness is class four, the Dicent Indexical Sinsign, (any direct object of experience like "a weathercock"), which is shown by a straight trace of moving from 12.23 to 12.22 to 12.21—a trace which is categorically second yet its trichotomized flow is from third to second to first.

Finally, although there are two degenerate forms of thirdness, there are six more classes of sign. The Fifth class, the Rhematic Iconic Legisign ("a diagram apart from its factual individuality") is shown by a trace moving from 11.23 to 11.22 and jumping to 13.21; this is the largest degree of degeneracy in sign, and "the only information it can afford is of actual fact" (2.257). The sixth class, the Rhematic Indexical Legisign ("a demonstrative pronoun"), is shown by a trace moving from 11.23 to 12.22 to 13.21 in a straight diagonal across the tri-square. As I argued earlier, this is a unique sign, for as Peirce defines it, it is "any general type or law, *however established*, [my emphasis] which requires each instance of it to be really affected by its Object" (2.259). I take it that this is a genuine sign, but one of "a peculiar nature", more suited to the pedestrian sense of "scientific" Law.[53] The seventh class, the Dicent Indexical Legisign ("a street cry"), is shown by a trace moving from 12.23 to 12.22 to 13.21 again moving like a knight in chess. The Eighth class, Rhematic Symbol Legisign ("a common noun"), is shown by a trace jumping from 11.23 to 13.22 and then moving on to 13.21. The ninth class, the Dicent Symbol Legisign ("an ordinary proposition"), is shown by a trace moving from 22.23 to 33.22 to 33.21 again moving like a knight. The tenth class, the Argument Symbolic Legisign, is shown by a straight vertical trace moving from 13.23 to 13.22 to 13.21.

Note that the greater degree of degeneracy seems to be shown by those traces which would "jump" squares (eight and five), or are "leapers" as they might be called. The lesser degree of degeneracy would be shown by those traces which move like a knight (classes two, three, nine, and seven) in this case, one square to the vertical and one at a diagonal. Finally, genuine signs are apparently those which reflect

all three aspects contiguously in both trichotomies; thus the Argument is the "most genuine" sign, for it is a third of thirds; the Rhematic

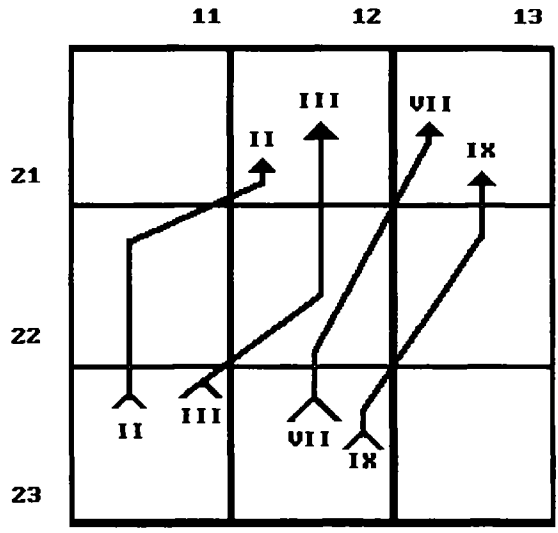

Figure 11. Four contiguous traces

Indexical Legisign is next "most genuine" since it is a third of thirds, but somewhat at an angle. The "least genuine" signs would be the Dicent Indexical Sinsign, as any object of direct experience, and the Rhematic Iconic Qualisign, as any quality as a sign. However, one probably should not take a hierarchy of Genuine signs too much to heart, for what Peirce apparently means by "genuine" is that it meets the stipulations of the correlate rules (2.235), and there is no indication that one is more "real" than another.[54] As shown in Chapter Four, there is much more to Peirce's classes of signs, but what is important here is that one have a spatial sense of how a tri-square can be read to generate the various types and classes of signs that Peirce identifies. It is also equally important that one have some understanding of how the spatial arrangement of the tri-Square can be used in a generic sense to generate all sorts of triadic relations in a very complicated manner.

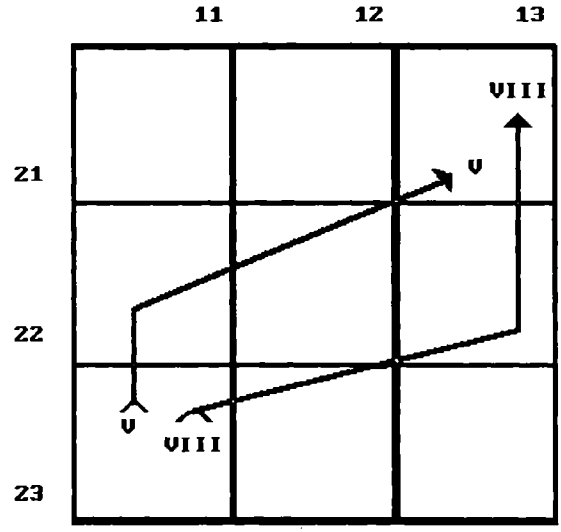

Figure 12. Two leaper traces

5.1.2. A tri-square of objects

Given that one can generate the nine types of signs or nine types of interpretants, one can also develop a tri-square for objects, but I suspect it is somewhat less precise than operating with interpretants since Peirce only mentions the two kinds of objects, Dynamic and Immediate, from which he builds trichotomies (8:349-67), and which Deledalle refers to as the O_d and the O_i. Still for triadomaniac minds, I offer this emendation, and again Peirce's terms will be shown bolded type and assumed terms will be in italic type, but I will not use subscripts for ease of reading in the Symbols representing the nine different types of objects.

Of course, a tri-square of objects is a greater extrapolation from Peirce than even Deledalle's Types of interpretants, but it is in the same spirit, and I would argue that it is reflective of Peirce's idea that any trichotomy will produce ten classes of that trichotomy. I have

taken this tact because, if the tri-relative definition is true, then an object can function as easily as a sign just as much as a

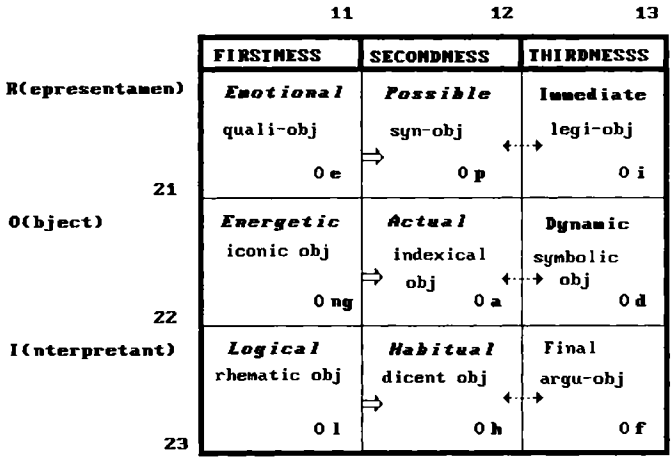

Figure 13. Nine types of objects

Representamen or an interpretant. Peirce does consider multiple objects when he develops the Dynamic and Immediate Objects to deal with the differences between assertion and signification (See Chapter Six, Sect 6.1 following). Generally objects are seconds because of the relation suggested by Indexical signs. The medical roots of semiotics or the persistence of the motivated sign obviously indicate that some objects are signs, and Peirce treats them as seconds despite the fact that is O_i and O_d are basically thirds because of their relations to signs and their interpretants.

Perhaps it is odd to consider a "logical" or "habitual" object, but I am assuming the secondness of classification or propositions to be functional operations with objects as much as "ideas", for we do configure objects to suit our needs, at least to the extent that tools are signs. Therefore, one can look at the various trichotomies of objects as well as one can with either signs or interpretants. For example, Peirce has already virtually created a third trichotomy of objects, and one need only to add the notion of a "Final Object" to that of the O_i and O_d. Such "Final Object" would be, I suppose, some-

thing like the Ultimate Interpretant, when theoretically the sign and the Signer of the Universe have a 100% correspondence and there is no longer any mediation, even if in a more practical sense, it is still the object as it would be defined by some law or rule.

One also can envision object trichotomies of secondness and firstness. One naturally needs secondness when talking about objects, for it is in the nature of objects to be existent, and although one can talk about Indexicality as actual or not, generally the Index has an Actual and assertoric nature; so the center second of seconds should be an "Actual Object". Moreover, if there is a first of a second in objects, it is reasonable to assume that such would be a "Possible Object", one that could become actual in its persistence as, say, an invented or designed object or a not quite recognizable object on a distant horizon, which as it comes closer is first of all an "animal", then a "human being", then a "man", then a particular friend, etc. But an "Habitual Object" would seem strange unless one thinks in terms of growth, as Peirce often did, and in such cases, an object as a persistence could "grow" as in, say, evolutionary morphology and speciation. Or one can think in terms of the Necessity of objects in Peirce's sense of Modalities, and in such cases, an object of necessity could be called an "Habitual Object".

The first trichotomy of objects seems to me to be the most problematic and the most interesting, for as a firstness, one is stressing the potentiality of objects, and again objects, as seconds, are a bit more persistent and resistant than mere potentiality. So this trichotomy seems a strained one, but nevertheless, an object as a first of firsts would be "Emotional", perhaps in the sense of excitement either as intuition or as something sensory. If so, one can about the "feeling of an object", but I suspect such would be something more like an object as represented, say, by a Gestalt optical illusion, where the data of the percipuum (7.642) are crystallized "with Sudden Insight" into an identifiable object. Of course, the danger is that one will have reified the qualia, but then that has always been an epistemological problem for human beings, and we often confuse the media carrier with the quality on which we operate. In Peircean terms, to reify qualia into an object is an abstraction and a perceptual judgement, and an object as a second of seconds, of course, will make more sense. So I suppose that an emotional object is something like the first concrete crystallization of a physical model, say when Crick and

Watson began to trace the double helix, or something like artisans do when they invent by assemblage or experimental design.

Still, I suppose the notion of an "Energetic Object" is not only possible, but quite likely in Peircean configurations, for we do interact with objects, perceptually or cognitively, and one's shadow, an indexical footprint, or iconic photograph do carry "energetic" impressions.[55] Finally, one can envision a "Logical Object" as something which is ruled by a structure as, say, something discovered in modeling. Here one would be stressing the iconic and abductive qualities of an object, and Peirce's understanding of the importance of diagrammatic thinking indicates that the concept of a Logical Object is probably a necessary one. Also, Peirce's discussion of the Rheme as a verb-ing and a process of naming suggests that there is a "Logical Object" in the processes of taxonomy and classification. So if there were no Logical Objects, there would essentially be no Scholastic Realism, and the Semeiotic would collapse into Nominalism. However, it is clearly Peircean to realize that objects are as rule governed as signs and do function logically.

5.1.3. The configurations of tri-squares

My assumption is that the configuration in such extended tri-squares will be respectively, the Representamen *qua* sign, the object *qua* object, and the interpretant *qua* interpretant. Such a configuration may be naive since it tries to avoid utilizing the similarity, contiguity differentiation that Peirce uses, (2.264) but my assumption here, in terms of the tri-squares, is that the tri-relative influence of trichotomized sign-relations is more appropriate than the similarity, contiguity tracks which will be shown by other relations. I also have consistently carried Peirce's notions of replica with a boundary marker of "<-- -->" and embodiment with a boundary marker of "==>" throughout all three tri-squares. This is done to reflect the extent to which an interpretant is another sign, the extent to which an object can be a sign, and the extent to which potentiality can be particularized—all suggesting the notion of embodiment and replica would be appropriate for all three trichotomies. That is not a strange notion for interpretants or signs since Peirce discusses them, but it may seem strained with objects. So here I will only consider the replica/ embodiment notion to apply to objects to the extent that they are

used as examples or copies of particularly signified objects; that is, that signs are media events or that objects can be classified as to types and members of classes. For instance, a chair can be used as an example for furniture, or the file icon in some computer interfaces represents both the general concept of file and a specific file. Or perhaps even more germane, the use of the prohibitive circle in international signs is a reference to a non-object/act such as "No-smoking" or no "U-turns", etc. Even stranger are the notions of counterfeits and fakes and the embodiment necessary to give certain objects their economic, historical, or artistic value. I know, of course, all these can be, and have been, discussed as icons and indices, but the point here is that a tri-square of objects allows one to broaden the discussion of objects from simple "things" to their sign functions.

Moreover, the replica boundary is not an unimportant one, for it is fundamental to the idea of representation and very close to Saussure's notion of *langue* and *parole*. As Peirce's discussions of Legisigns indicate, replicas are particular expressions of general principles and function as the actual existence of a law or habit. Nor should the notion of embodiment be considered simplistic. It is obvious that Peirce recognized the necessity of un-embodied potential to be meaningless, and the embodiment boundary is a secondness particularization of firstness Qualities. As I have argued, it is one of the fundamental frontiers to the sign, and beyond the disembodied conception of firstness, there is only the vortex of potential,and growth or evolution is also fundamentally a growth of objects as well as ideas. Whatever the process of interfacing, it is obvious that sign systems are functional inter-connections of system and structure, etic and emic, analog and digital markings, etc. It is the epistemological problem of the part to the whole, of micro-scale to macro-scale, of the one the many, and a theory of signs must somehow incorporate that limit, or that interface, into to its understanding. Also, this double notion of boundaries tends to push semiosis toward a center of secondness, which is what Peirce's realism demanded and may, as he thought, provide the answer to that epistemological paradox. At least the secondness sign of the Rhematic Indexical Legisign has a central position in the triangular table and anchors the semeiotic in the notions of objects.

5.2. The tri-square cubed

By developing tri-squares for both interpretants and objects to supplement Peirce's original tri-square of signs, one gets a fairly complex classification system (9^3) that could yield some minimum of 729 different possible arrangements, but my intent is not to develop a new, and differently complicated, typology of signs. Despite my Appendix, I have no desire of counting the number of sign relations which can flow from the tip of Peirce's pen, but I do want to look at the permutations which can exist in the full trichotomic relations of the sign. Since Peirce assumes every sign is triadic, it seems natural to look at an implicit trichotomy of signs, interpretants, and objects not only as the planar tri-square that Peirce develops, but also as one which stresses the three Universes of Experience. Therefore, following Peirce's notion of the interpretant as an "interpreter" for other signs and his idea, from the "Algebra of Relatives, that "different triplets ... may be conceived to be arranged in a cube" (3.317), I would like to cube the tri-square, putting the Representamen (or sign) tri-square on the top, following with the Interpretant tri-square as level two, and the object tri-square as level three.

I have chosen this particular sequence, even though it seems to violate the more expected sequence of first, second, and third, for several reasons. One, I have kept Peirce's original sequences as the tri-square on each tier so that there are three layers, coming from back to front, for sign, object, and interpretant bisecting each tri-square Tier.[56] Two, as Peirce argues, we live in a universe of signs which are not absolute, but if there are absolutes, they will be of a first and a second nature (1.362); therefore, the Interpretant level is placed physically as the middle level. Three, thirdness is the "medium or connecting bond between the absolute first and last. The beginning is first, the end second, the middle third" (1.337), and since that notion has been one of the main emphases of my arguments, I will portray it as such.

Four, the nature of the interpretant's role, which is to mediate between the first and the second, evokes Peirce's metaphors of the Sheriff (5.48), the Ambassador, or translator (1.553), and the Arm of the Law (5.48) to explain the interpretant's role in bringing the sign and object together. As he puts it, "A REPRESENTAMEN is a subject of a triadic relation TO a second, called its OBJECT, FOR a third, called its INTERPRETANT, this triadic relations being such

that a REPRESENTAMEN determines its interpretant to stand in the same triadic relation to the same object for some interpretant" (1.541). Therefore, the interpretant tri-square is given the mediating level between the Representamen and object levels to represent the gate-keeper role of interpretant-forming.

Five, as Deledalle stresses, the Immediate Object and the Dynamic Object, never quite join in perfect match, because the Final Interpretant is, after all, only theoretically needed and because real Existent Objects and Interpretants exist only in "an *endless series*" (2.293n). The Final Interpretant only approaches the Actual Object, and there will always be a sign interface and boundary, no matter how infinitesimal. We, therefore, do live in a universe of ever-changing, ever-interconnected signs so that "in consequence of every sign determining an interpretant, which is itself a sign, we have sign overlying sign. The consequence of this, in its turn, is that a sign may, in its immediate exterior, be of one of the three classes, but may at once determine a sign of another class" (2.94).

Sixth and finally, the Cubed Tri-Square is closely tied to my own pyramidal models (Spinks 1981), with the Definition Plane being the Representamen Tri-Square, the Culture Plane being the interpretant Tri-Square, and the Denotation Plane being the Object Tri-Square.[57] Both patterns of the Cubed Tri-Square and the three dimensional pyramidal models assume that there is a synthesis of integrative relations between all aspects of the sign whether it functions as a sign vehicle, an interpretative concept, or an object in nature. So I have arranged the three trichotomies into the Cubed Tri-Square.

Such an arrangement cubes the tri-square, and if one assumes, as Peirce does, that any Representamen (as sign, object, or interpretant) is triadic, then these cubed classifications will allow one to look, hypothetically at least, at the large number of degenerate signs without the need to personify a user of the signs. Such systemically, rather than userly, degenerate signs will be either bi-dimensional or mono-dimensional; that is, as Peirce says of dream signs, "lacking a prominent thirdness", and one can then examine their degeneracy structurally as Peirce did. Of course, a firstness has no degeneracy any more than an isolated representamen has degeneracy, for it is only sign potential. Nevertheless, as Peirce says in *The Algebra of Logic*, when "the triple relation between the sign, its object, and the mind, is degenerate, then of the three pairs

sign	object
sign	mind
object	mind

two at least are in dual relations which constitute the triple relation" (3.361).

So the pattern suggested here, although Peirce is mainly concerned with degeneracy, is also essentially the same pattern I have suggested in my pyramidal models although there I use symmetrical planes whereas here I have used contiguous tiers. There, the relationships between sign users and the basic trichotomy become the three upper faces of the pyramid emphasizing respectively the sign/ object as the Denotation Plane, the sign/mind as the Definition Plane, and the object/mind as the Culture Plane, but here, the emphasis is not specifically on the relations of the trichotomy of signs and users, rather the relationships investigated are between trichotomies of trichotomies.

5.2.1. Trichotomous division and the cubed tri-square

But trichotomous division is more productive than just modeling degeneracies, for in the draft of his letters to Lady Welby on December 14 and 23, 1908, Peirce included the triangular diagram of ten trichotomies. He called it a "scrap", but it is a most provocative diagram portraying a large triangle (Figure 6) composed of forty-nine smaller triangles. In ten of them, there are numbers coded so that

> The number above and to the left describes the Object of the Sign. That above to the right describes its Interpretant. That below describes the Sign itself. 1 signifies the Possible Modality, that of an Idea. 2 signifies the Actual Modality, that of an Occurrence. 3 signifies the Necessary Modality, that of a Habit.... (8.376)

It was this pattern which first suggested to me the possibility of pyramidal models, for it is visually obvious that the tri-relative influence can be carried past the first few trichotomies. And if one can divide trichotomy by trichotomy, then one can shift to three dimensional space as a modeling device.

But I do not wish to repeat the arguments about the pyramidal models here, rather let me comment on some interesting facts about this diagram. *First*, it is essentially a triangular view of the stacked boxes of the "Division of Signs", but it is a reversed one. The numbered triangles are, as a matter of fact, the ten classes listed in the "Division of Signs", but Argument, that third of thirds, and the Qualisign, the first of firsts, are reversed with Argument to the left and the Qualisign to the right. *Second*, if one uses the three correlate rules, the second of seconds and the fully mixed sign of a first, second, and third are properly placed at the bottom and the center. *Third*, the spheres of influence for the three vertices are dramatically illustrated by the pattern of numbering for those triangles along the edges. *Fourth*, there are unnumbered triangles which are inter-placed between the ten classes of signs, and it is quite easy to see that the other thirty-nine triangles could be indexed with numerical markers. But *fifth*, the nature of triangles (and geometrical diagrams) is that this process of trichotomous division could continue to sixty-four trichotomies, or one hundred and twenty-one trichotomies, or two hundred and eighty-nine, or infinitely.

I cannot, nor would anyone want to, trace out that many sign relations, but obviously trichotomous division is capable of great precision, or at least great multiplicity. But when I developed the concept of semantic triangulation (Spinks 1981:153) in the pyramidal models, it was this potential for trichotomous replication that I was trying to model. The infinity of triads that trichotomous division is capable of producing suggests the kind of infinity of which semiosis is capable. The integrated relations of my pyramids are essentially that potentiality modeled for sign users in particular, but it is also the sign potential that I am seeking to examine in the Cubed Tri-Square although in this instance it is more related to the capacity of signs than the capacity of sign users. The cubed format, which is just a series of triangles stacked in a certain way, at least as Buckminster Fuller argues (1975:7) will, I think, not only stress the complexity of sign operation and demonstrate that sign processing can utilize a vectorial emphasis on either firstness, secondness, and thirdness, or on sign-role, object-role, and interpretant-role, but it also is consistent with the visual spatiality of Peirce's own thinking. Moreover, I think it gives a diagrammatic rendering of a sign having "a life of its own"—a fascination, or dread, that all sign users have when they recognize that signs easily go past our capacity to control them.[58]

The Cubed Tri-Square is simply another diagram, another convention like the pyramids, to make it possible to trace the sign patterns of fullness or degeneracy. Thus, all I have done is extend Peirce's ideas and Deledalle's notation to represent the full panoply of possible sign types, sign production, and sign flows. The patterns in the Cubed Tri-

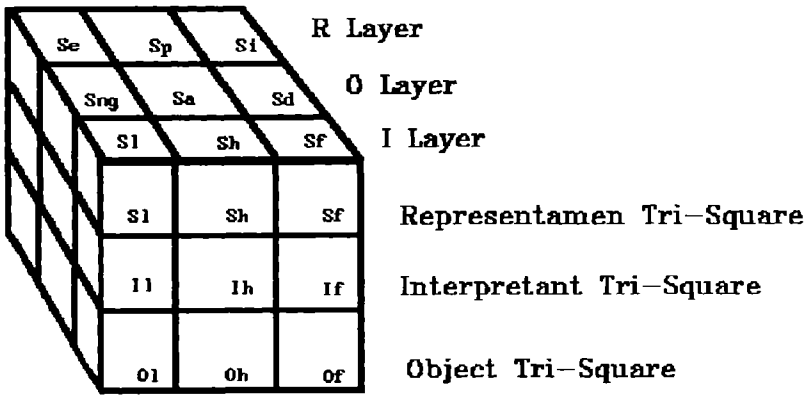

Figure 14. A cubed tri-square

Square emphasize the relationships between signs, but I am also using the term "sign flow" to indicate the kind of emphasis users give to the sign operation and which receivers use to understand it, for sign flow exists as part of the tri-relative influence both internally and externally. In developing the Cubed Tri-Square, I have essentially used the model of a three dimensional chess board; and it would look like a three layered stack from the side:

Table 6 The levels of a cubed tri-square

Representamen tier:	*Rt*--[Definition plane]--*Rt*
Interpretant tier:	*It*---[Culture plane]---*It*
Object tier:	*Ot*--[Denotation plane]--*Ot*

Each level would, of course, be oriented so that the appropriate squares of each tri-square would align themselves on the vertical throughout all three levels, and for the sake of convenience of reference, I will stipulate that the triad of qualisign, sinsign, and legisign will be placed, on the horizontal, furtherest from the viewer while the triad of rheme, dicent, and argument will be closest to the viewer.[59]

Such stipulation will not only allow the clearest tracking of the sequence of sign patterns through the levels, but will keep them "in the same triadic relation" (1.541) that Peirce requires in his multiplication squares. Each level would consist of the appropriate tri-square layer which uses the nine generic terms generated by the interpretant tri-square: Emotional, Possible, Immediate, Energetic, Actual, Dynamic, Logical, Habitual, and Final appropriately joined with the terms of sign, object, or interpretant to reflect their tier level. Each tier, then, is composed of the trichotomies of both a first, second, and third and sign, object, and interpretant. Tier one will be called *Rt* for the Representamen tri-square; Tier two will be called *It* for the interpretant tri-square, and Tier three will be called *Ot* for the object tri-square.

5.2.2. Sign flow as vectors

If one grants that the tri-relative influence operates in the Cubed Tri-Square, there will be a triadic path on which a sign will follow from the Representamen Level to the Interpretant Level and to the object Level; but all sign entry will start at the *Rt* level and will be listed as "S" plus an italicized *x* to reflect their use as signs and shown as follows:

Table 7 Sign symbols in vector flows

S*e* = Qualisign	S*p* = Sinsign	S*i* = Legisign
S*ng* = Icon	S*a* = Index	S*d* = Symbol
S*l* = Rheme	S*h* = Proposition	S*f* = Argument.

Therefore, the path of any sign reflects the mediating role of the interpretant between object and sign thus merging the real world and

the actual world through semiosis. I will call these paths of sign flow *Vectors*[60] for what is being modeled here is the inter-relations that operate in sign usage, and what is of interest is the patterns of sign production that are implied in Peirce's categorization of signs. This will allow one not only to look at various kinds of signs, but it will also give a diagrammatic view of the various degrees of degeneracy that Peirce assigns to the tri-square.

5.2.3. The degrees of degeneracy

As I suggested before, when Peirce created and identified his ten classes of signs, he apparently did so by tracing the horizontal relations of firstness, secondness, and thirdness according to the three correlate rules to yield the ten classes of signs. Of course, all of his relations are triadic, and all but two utilize directly "contiguous relations" between the aspects of the original trichotomized tri-square (2.264). In my Cubed Tri-Square, I have simply changed the axis of these relations to include a second and third tier given over specifically to an interpretant-sign and an object-sign. Thus, the degeneracies become contiguous tracings over three dimensions rather than two as I have followed a sign's vector through all three tiers; however, I have not tried to follow Peirce in using the "leaper" signs through out the tiers not because I think Peirce is wrong, but because my intellect simply cannot keep that many variables in mind. I am assuming that the process of embodiment and the need for replicas will continue through out all three tiers, but as yet, I find that process difficult to model.

Since each level of the Cubed Tri-Square is itself a trichotomy of trichotomous signs, it is true than some horizontal sign flows and all vertical sign flows can be considered a full sign which uses the tri-relative influence. In fact, the sequences of vertical flows are the basis of Peirce's ten trichotomies of signs because apparently what Peirce's considers in the ten trichotomies is the numbers and kinds of firstness, secondness, and thirdness that characterize a sign type according to the three correlate rules, and there is manifestly a very close relationship between the generation of classes and the interrelation of various trichotomies. However, I will consider as *Full Signs* all of those and only those signs which follow the rule that

each permutation will include sequences of Firstness, Secondness and Thirdness, *and* also which follow a contiguous sequence of Representamen, Interpretant, and Object through all three levels.

I have followed this rule to reflect both Peirce's three correlate rules (2.235-37) and Deledalle's interpretation of the sign flow even though it is the fact than any sign is already a triadic relation. I have also used this rule and the avoidance of horizontal flows between tiers to cut down on the number of permutations. I trust that the lessening of vectors will save time and that the double reading of triadic relations will reflect both Peirce's reading of the tri-square's various trichotomies and a principle of redundancy since signs do not occur in a semiotic vacuum, but are always interconnected by the tri-relative influence. For those cases where the sequence leads to mixes of less than a firstness, secondness, and thirdness, I will consider them degenerate in various degrees. In this, I am following Peirce's tendency to give thirdness and triadicity the higher sign priority, I am utilizing the three correlate rules, and I will also consider the number of prescissions (1.353) in order to rank the degeneracy of each vector path. I also will assume a somewhat different order than Peirce and will list my ranking[61] and Peirce's ranking with the degrees of degeneracy as listed in Figure 15.

Therefore, the sign vectors will reflect Peirce's basic notion of three degrees of degeneracy (1.365) although I will add one additional degree for precision's sake. I am not sure four "degrees of degeneracy" are completely necessary since they are, from another perspective, simply Peirce's ten trichotomies and adequately built into Peirce's system already, nor am I certain that the rankings I have given them are any better than Peirce's. In fact, it might be clearer, even more precise, to discuss the permutations of sign flow as simply the ten classes rather than as four degrees of degeneracy with an alternate rank; it would certainly be more faithful to Peirce and Peircean scholarship. But since I am not trying to pursue a typology of signs and since I am more interested in the production of signs than in their classification, I want to use the "degrees of degeneracy" to focus on both the formal characteristics and processes of sign relation rather than simply the characteristics of the ten classes. I also want to underscore the abstractive process of prescission which produces the degeneracies, and my ranking, although somewhat willful, seeks to follow a consistent pattern based on the actual sign and its prescissive

CORRELATES	My Rank	Status	Peirce's
1st, 2nd, & 3rd	---	Full Sign	
3rd, 2nd, & 1st	-0-	Full Sign 0^{0}	(VI)
Peirce's Thirds Degenerate by One Degree (Having a Third and one precission)			
1st, 1st, & 3rd	-1-	1^{0} Degenerate	(V)
1st, 3rd, & 3rd	-2-	1^{0} Degenerate	(VIII)
3rd, 3rd, & 3rd	-3-	1^{0} Degenerate	(X)
2nd, 3rd, & 3rd	-4-	1^{0} Degenerate	(IX)
2nd, 2nd, & 3rd	-5-	1^{0} Degenerate	(VII)
Peirce's Thirds Degenerate by Two Degrees (Having two prescissions or no Third)			
2nd, 2nd, & 2nd	-6-	2^{0} Degenerate	(IV)
1st, 2nd, & 2nd	-7-	2^{0} Degenerate	(III)
1st, 2nd, & 2nd	-8-	2^{0} Degenerate	(II)
Peirce's Secondness Degenerate by One Degree (Having no Third and no prescission)			
1st, 1st, & 1st	-9-	3^{0} Degenerate	(I)

Figure 15. Correlates and their rankings

movement. It is not meant to correct Peirce's own thinking or Peircean scholarship as much as it is to explore the generative relations of sign trichotomies.

My sequence of rankings is designed to demonstrate sign potential. It starts in the Center of Peirce's triangular stack of boxes (2.264) at the Rhematic Indexical Legisign (VI) and flows up to the Rhematic Iconic Legisign (V), then to the Rhematic Symbol (VII) and around and back to the most potential of signs, the Qualisign (I). This pattern of flow will, I believe, reflect five things: one, this path represents the way we actually learn signing from actual occurrences by extrapolation to signing competence (by neurological programming, of course); two, this path more clearly represents a path of prescission than any other; three, this path is reflective of sign production rather than sign interpretation or classification; four, this path does markedly put the full, mixed sign in the spatial middle and epistemological center of an absolute first, a Mediating third, and an absolute second, which is how Peirce conceived of the tri-relative influence at its most inclusive, and five, this path reflects at its termini the boundaries of the Semeiotic:

a full sign in thirdness order, a reversed sign in secondness order, and a complete Qualisign in firstness order.

I have also used four degrees of degeneracy because Peirce actually does include four degrees in his discussion of propositional blanks (2.272), and a zero degree, as a degree for reversed signs seemed sensible (although others might simply list them as Full Signs[62]) because the oddity of a "reversed" sign is too startling to be ignored. In many ways, the Rhematic Indexical Legisign is a reversed sign, for when Peirce traces it he goes from a Rhematic third to an Indexical second to a Legisign first and it fits the correlate rules. I know that there is no preferred and specific sequence of thirds in the sign since the only stipulation is for a tri-relative influence. But it is also obvious that the very sequence of the thirds is important to the kind of sign relation functioning, or Peirce would not have made the issue of the middling interpretant as important as he did nor would he have needed to generate the ten classes of signs. Of course, that emphasis may be for the purposes of demonstration, but as the Cubed Tri-Square will show, this "mirror effect", if I may call it that, holds throughout, producing an equal number of full signs and an equal number of reversed, full signs. I do not know if "reversal" has any fundamental effect upon signs, but it does double the number of triply triadic signs, and it is the infrastructure that allows the huge number of sinsigns and legisigns in Peirce's numerous classes. If such "reversed" signs are not violations of the correlate rules, and given class six they seem not to be, then they may easily demonstrate the potentiality of apparently unrelated triads to become fully integrated signs of a trichotomous nature.

In addition, since there is a vector which would actually have all firsts, I thought it better to keep this final degree category to reflect what surely is a potential sign of "pure" firstness even though it is clearly what Peirce termed a Qualisign and is certainly provided for in the three correlate rules. It surely is not a very precise sign, but the Qualisign does reflect the capacity of semiosis to create new signs, which like abduction is a process of prescission distinctly different from hypostatic abstraction. What intrigues me about the degrees of degeneracy (both my own and Peirce's) is that they, rather than the classificatory details of the ten classes, reflect the process of prescission, and prescission is the dimension of potentiality in semiosis. The ten trichotomies are, no doubt, excellent hypostatic abstractions, but the degrees of degeneracy are prescissive abstrac-

tions, without assertion of existence, and they reflect the fact that potentially usable signs, which to some extent is a contradiction, can follow the most non-reasoned paths. Perhaps signs do have a life of their own, and even the qualisign can produce an "immortal symbol" (7.593).

What my degrees of degeneracy, in their emphasis on sign production, provide is "the generality of the possible, the only true generality, [which] is distributive, not collective" (5.532). However, what the ten trichotomies as classes tend to provide is a *post hoc* collective, which may not provide sufficient concern for the conditional quality that exists because "symbols, owing their origin (on one side) to human conventions, cannot transcend conceivable human occasions" (7.532). So I think it worthwhile to emphasize the epistemological qualities of sign production more than the existential characteristic of signs. Perhaps my argument is wrong headed, too leery of the logician's mantle, or too invested in the concept of prescission, but I do want to reduce the number of vector classifications for sanity's sake. I do want to reflect redundancy; I do want to examine the effects of trichotomizing the trichotomies as a check on my pyramidal models; and I do want to give marginal signs more investigation and consideration. Primarily I agree with Charles Hardwick that "An overconcern for classification ... tends to de-emphasize the much more important epistemological significance of Peirce's theory of signs" (1977:xxxiii note). So I will keep the degrees of degeneracy, and I will put Peirce's Numbers for the ten trichotomies in parenthesis.

However, the most significant point to make here is that both my "degrees of degeneracy" and Peirce's ten trichotomies are based on prescissive trichotomizing. It would be easy to mimic Peirce here, but my degrees of degeneracy and ranking give a slightly different perspective, a different angle if you will, to what Peirce was doing with the trichotomies, and it might be helpful to see the system working from another viewpoint. My variant rankings are not made to dispute Peirce as much as to highlight the prescissive operations of sign generation, and the flavor of the differences of the two rankings should, because they are so parallel, establish some accuracy to the principle of correlate prescission developed by Peirce. For example, the different order of the ten classes created by my degrees of degeneracy are due to the necessity of two prescissions to achieve a sign composed of a first, second, and third required by Peirce's three

correlate rules. Essentially, I have only exchanged the sequenced position of the Argument (X) for those of the Rhematic Indexical Legisign (VI) and the Rhematic Iconic Legisign (V) because the Rhematic Indexical Legisign is a reversed, full sign of zero degree degeneracy containing a complete sequence of firsts, seconds, and thirds without a prescission.

Also, this sequence respects the spatial and epistemological centrality that Peirce gave to the Rhematic Indexical Legisign in his own diagram (2.264) and thinking (8.376). Such an arrangement will tend to give the Argument a less privileged place in the trichotomies, I think justly, since even Peirce saw some significant differences in the processes of Abduction, Induction, and Deduction in terms of their certainties of reasoning. The Rhematic Indexical Legisign is more characteristic of both the limitations and capabilities of Argument since Arguments are more or less effective on the basis of their propositions; so I have used this device of the reversed sign and centrally based sequence to underscore the approximate, but forceful nature of the Argument. Moreover, I have never been comfortable with the priority of Argument given by an imputed hierarchy even though the sequence of Rheme (or Term), Dicent (or Proposition), and Argument is certainly an essential and important triad, especially for Peirce's logical interest. As Peirce's critiques of Deduction and Induction demonstrate, the "rules" of Argument are just as subject to error as the Qualisign; the two and their possibilities for error just seem to be of different kinds. So as an experiment at least, I think it worth while to keep the degrees of degeneracy and see what difference it might make it the intra-relations of the trichotomies and as a test of the reputed hierarchy that favors Argument.

5.2.5. The reversed sign

I am sure my references to a "reversed" sign have caused the gritting of teeth by some readers not only because Peirce uses no such term, but because many people do not care for the idea of thinking "backwards". Be that as it may, the reversed sign is very prevalent in my Cubed Tri-Square. It is of equal force in the tracings of the Rheme, the Proposition, and the Argument usually splitting the trace between a quali-object, a sin-object, and a legi-object. There is, of course, some sense of critique that suggests I should simply ignore or

erase such permutations, but I think that would be a mistake. As I have argued, the Rhematic Indexical Legisign is a central sign in Peirce's classification of signs, and as is often the case in my tracings, it is a reversed sign in exactly the same sense that the Rhematic Indexical Legisign was in the "Division of Signs". That is, the reversed sign seems to operate fully in either the trichotomies of Peirce or my own trichotomies of interpretants. As I have tried to stress, this similarity exists because the Semeiotic faces the problem of its relations to Logic, the "interest in Truth" as Peirce put it to Lady Welby or the significative impurities that come from assertion. Of course, the other interest of Semiotics is that of significs in studying "the relations of Signs to their Interpretants" (8.378).

Moreover, I think Peirce's triangular scrap tells something of the difference. As Peirce describes the small, internal triangles, he says, "The number above to the left describes the Object of the sign. That to the right describes its Interpretant. That below describes the Sign itself" (8.376). But if the same relation applies to the whole triangular set, then the Qualisign's corner is also the interpretant corner setting up two sets of intra-related trichotomies which have reversals built in to them. If that be so, then the reversed sign of my Cubed Tri-Square is simply an interpretant version of the Rhematic Indexical Legisign, and the whole architectonic of the Semeiotic need not be overturned by the inelegance of my term, the "reversed" sign. There really is a central function here in the Rhematic Indexical Legisign, but like all central functions, it will ultimately connect to the periphery. The Semeiotic is a system, and like all systems it will have both internal and external boundaries. I trust that my version of the Rhematic Indexical Legisign, as a reversed sign of Zero degree, helps to underscore an emphasis on sign potentiality rather than sign typology. Still, there is no use in trying to separate them, for to do so would just put us "in imminent danger of erecting two groups of one member each!" (8.378)

Moreover, the Rhematic Indexical Legisign, as a reversed sign, or an "unusual" sign if you prefer, is, as I have argued, the central sign of either the corollarial boxes (2.264) or the triangular diagram (8.376). It forms one of the two boundaries of the Semeiotic between an absolute second and a signified third, whereas the Qualisign is the boundary between an absolute first and a signified third. So it is natural that the Rhematic Indexical Legisign would be an unusual sign as it is in Peirce's classification, but the fact that it is, in my tracings,

a reversed sign suggests its scalar functions as well; that is, the center is also the periphery (if not the periphery).[63] The Rhematic Indexical Legisign can escalate semiosis by allowing it to shift scale and thereby to move to a new level of the semiotic network and to continue developing chains of interpretants.

Thus, the Rhematic Indexical Legisign, as either central sign or reversed sign, is a most powerful sign. Its flows, either on the tri-square or in the Cubed Tri-Square, and its contiguous relations, in either the Stacked Boxes or the Cubed Tri-Square, show it uniting the various aspects of all the trichotomies—corollarial, categorical, signific, interpretant, or modal. If there are boundaries to the Semeiotic, and surely Peirce's task would not have been so difficult if there were not, then the Rhematic Indexical Legisign focuses all of them—theoretical, actual, or hypothetical—by pointing regularly to the object (as object, sign, or interpretant, old or new). It may very well be the center of the semiotic cyclone, the dissipative agent of order in chaos.

The oddity of the Rhematic Indexical Legisign lies in more than its "reversal". It also suggests all of the problems of mirror signs in walking the boundary between "virtuality" and "reality", to use Eco's terms (1984:226), or the boundary between the "possible" and the "actual", to use Peirce's terms. The Rhematic Indexical Legisign shows many of the characteristics of a mirror. It moves from a third of firsts to a first of thirds, and its central position, in the stacked boxes table, means all semiotic paths will lead to this point whereas any other path, in the triangular diagram, will lead one to a terminus of either firstness as possible modality, secondness as actual modality, or thirdness as necessary modality. But more importantly, the Rhematic Indexical Legisign, in either system of classification, mirrors the other relationships of the tri-square in itself. As the other classifications move from thirds to firsts, so does the Rhematic Indexical Legisign, but it also echoes that movement back in that its third is a first and its first is a third. Moreover, the mirror is a particularly fascinating icon for self-conscious sign users, and that pattern seems to suggest it here, for the Rhematic Indexical Legisign points not just to the object, but the signing process as well. It may very well be the mirror of the Semeiotic, and one will always wonder who is looking back at one from the mirror, self or other.

Finally, the oddity of the Rhematic Indexical Legisign also suggests the problem of the left-handed sign; that is, the whole problem of

semiotic torquing to other uses and other signs. For example, in Peirce's "Notes on Metaphysics" from 1909, he says that after searching for "a *genuine* triadic relation" for forty years, he had not found one. Still, he points out that "As a case as nearly brute and inorganic as any, I may mention the form of relationship involved in any screw-form which is definitely of right-hand, or occidental mode, or is definitely of the Japanese, or left-handed, mode" (6.322). He then goes on to mention that although this relation is fundamental to the atomic structure of carbon, we do not know how this phenomena is affected by chance, and he stresses that "We know *no case of a definitely right-handed or left-handed screw phenomenon ... except in cases where the choice of a living being determines it*" [my emphasis] (6.322). Of course, the Rhematic Indexical Legisign is a product of a living system, but it seems to have the kind of left-handed and right-handed characteristic that Peirce identified with the genuine triadic relation, and I am surprised that Peirce did not pursue this class of signs in such a light. That only thing I can think of that might have prevented him considering it such was that it reversed the corollarial sequence and must have seemed flawed to him in some way, perhaps in that it contained the semiotic impurity of assertion (8.337). Still as I am arguing here, that semiotic impurity may be more a result of the grouping of sign classification to discuss argumentation than anything else, for it seems less of a problem when one discusses the process of growth of interpretants.

However, Peirce is writing the "Notes to Metaphysics" and the Welby draft of the "scrap" at about the same time. So it may be possible that Peirce is somehow trying to compensate for his "left-handed thinking" and finds it difficult to see the kind of inverse pattern which seems to exist in the Rhematic Indexical Legisign. More than likely, the sign is not "a genuine triadic relation" because it is, after all, a sign created by living beings and therefore does not meet Peirce's search criteria. Or perhaps I am simply wrong-headed in trying to make this much of that class of signs, but it obvious from both the Corollarial Table and the Modality Table, that Peirce gave the Rhematic Indexical Legisign a central place, and if my arguments about boundaries is telling, then the Rhematic Indexical Legisign may be the genuine triadic relation Peirce sought for all those years. Whatever the case, the Rhematic Indexical Legisign is an unusual sign, and it undoubtedly will need more study in the future from those interested in signs, either as a typology or as a process of production.

My own interests lie in sign production and marginal signs, and I think the Rhematic Indexical Legisign demonstrates those sign aspects quiet well both in Peirce's classifications and in my Cubed Tri-Square.

5.3. Entry points and permutations

I will not abuse the reader by trying to detail all the tracings and degeneracies of the Cubed Tri-Square here, but those interested should look at the Appendix on "the Vectors of Sign Flow" where that is done. However, I do want to summarize them here, for the sanely impatient. Perhaps, one might want to glance at the Appendix to get a physical sense of the model's operations, but generally they can be summarized to indicate the patterns and relationships which exist in the permutations of the tracings of sign Flow.

First, it should be obvious that the point of entry will have a profound effect on the outcome of any sequence, for the trichotomous arrangements of the nine types into a tri-square of 11.21, 12.22, 13.23, etc provide that certain relations will have priority. If there is a priority of signs, it exists in the tri-square because of the trichotomized categories and prescission, demonstrated spatially by diagraming the tri-relative influence. Although the Cubed Tri-Square reflects this

	11	12	13
	FIRSTNESS	SECONDNESS	THIRDNESSS
R(epresentamen)	Se 5 Full 14 @ 2° 6 @ 3°	Sp 7 Full 21 @ 2° 7 @ 3°	Si 5 Full 15 @ 2° 5 @ 3°
21			
O(bject)	Sng 0 Full 15 @ 1° 20 @ 2°	Sa 0 Full 21 @ 1° 28 @ 2°	Sd 0 Full 15 @ 1° 5 @ 2°
22			
I(nterpretant)	Sl 5 Full @ 0° 20 @ 1°	Sh 7 Full @ 0° 20 @ 1°	Sf 5 Full @ 0° 20 @ 1°
23			

Figure 16. A tri-square of vectors

kind of priority of thirdness, it places the interpretant literally in the mediating position. Despite the sequence of tiers, the sign flows between the tiers will follow Peirce's pattern of third to second to first; so corner entries will establish vectors with four other sign aspects; middle edge entries, vectors with six other sign aspects; and the center entry, vectors with all nine sign aspects.

Thus, sign entry on the Representamen layer of the first tier will produce full signs; entry on the Interpretant layer of the first tier will produce reversed signs; and entry on the object layer of the first tier will produce no full or reversed signs. For example, if one enters from the S*a*, the Index on the first tier, there will follow nine possibly contiguous interpretants with nine further possibly contiguous objects for a total of 121 possible operations for one entry. This larger number is due to the fact that, besides the forty-nine possible vectors of I*a*, here are seventy-two other possible vectors through the other interpretants. However, if one enters from a center/side relation of the first tier, of S*p*, S*ng*, S*d*, and S*h*, then there will follow six possibly contiguous interpretants with nine further possibly contiguous objects for another 104 possible operations. And finally, if one enters from the corner relations of the first tier of S*e*, S*i*, S*l*, or S*f*, there will then follow four possibly contiguous interpretants and another nine possibly contiguous objects for seventy-six possible operations.

Second, although it is possible to enter the Cubed Tri-Square at any point, I have assumed for simplicity's sake that entry will be at the Representamen tier to reflect the facts that we meet signs *qua* signs and that signs through interpretant-forming lead to other signs. This has the advantage of giving emphasis to sign potentiality, and it reduces the vast number of sign flows that would have to be represented, some of which would duplicate each other. Third, excluding duplications, such a number of operations will mean a total of 289 actual[64] permutations for sign entries on the first tier. Thus, the Qualisign can lead to twenty-five other signs, five of which are full signs; this is true also for the Legisign, but although the Rheme and the Argument will lead to twenty-five other kinds of signs, five of which in each case will be full signs at zero degrees and the rest of which will be degenerate in various degrees. The Sinsign can lead to 35 signs with seven full signs, fourteen signs being degenerate three degrees, and fourteen signs being degenerate in two or four degrees. The Icon, and Symbol can lead to thirty-five other kinds of signs, all being degenerate to one, two, or three degrees. However, a Proposi-

tion, perhaps reflective of logical operations, can lead to thirty-five signs, seven of which are full signs at zero degrees, and the rest degenerate only to a one or two degrees.

Finally, the Index itself, suggesting some of the power and limitations of causative thinking, can lead to eighty-one other kinds of signs all which will be degenerate to one, two, or three degrees if one allows horizontal vectors. Fourth, these complex permutations will yield a large number of vectors for Peirce's three basic trichotomies, but for simplicity's sake, the sign flows can be simply summarized in a tri-square of Vectors. Fifth, these permutations, although an exercise in patience, suggest just how productive Peirce's tri-square can be; they also allow, in the development of degrees of degeneracy, the establishment of a complex and more precise system for examining the vast area of marginal signs. There will be a pattern to the vectors of the Cubed Tri-Square relating to the controlling powers of thirdness, the actuality of secondness, and the potentialities of firstness.

Because of the arrangements of the three tiers, the most powerful vectors are those of the Index, the Proposition, and the Sinsign. The Index vectors produce the most signs, and the Proposition and Sinsign vectors produce the most Full Signs. However, the Rheme and Argument vectors produce the tightest range of signs and seem to be most reliable. I hesitate to call the Qualisign and Legisign vectors the weakest since they both noticeably produce five Full signs; yet they both also have a large range of degeneracy in their signs that would seem to make them less reliable. That is, of course, due to the absence of a significant amount of thirdness in their operations. Generally, the vectors patterned here follow the kinds of stipulations and examples that Peirce gave or the various kinds of signs, and show that the relational modes that Peirce developed in the tri-square do as a matter of fact also show themselves in the Cubed Tri-Square.

Sixth, I would like to underscore the importance of the clustering by levels. At the Representamen stage of the trichotomy of signs, the Sinsign, and Legisign have a matching of their third degree signs with their full signs, but for the fuzzy potentiality of the Qualisign, there is an excess in the third degree, suggesting that potentiality is about twenty-five per cent more frequent than in the sinsign and legisign. Also, oddly enough the only "real" full signs happen at this level upper level where I suppose most of us meet the occurrences of signs; that is, in the context of their use! At the object stage of the Peirce's trichotomy, there are no full signs and that the split between one and

two degrees is equal for the Icon and the Symbol, but the Index has about a twenty percent greater frequency of uncertainty even if it can produce more signs. And at the interpretant stage of the original trichotomy, the Rheme, Proposition, and Argument not only produce reversed, full signs, their number of Arguments parallel the full signs exactly. As I have argued above, such pattern certainly reflect the power of logic, but it also underscores the approximate nature of logical discovery. I do not think this pattern of reversal and mirrored quantities of signs is a useless configuration, for when we argue we are, to some extent, working backwards, engaging in a reconstructive activity. Induction and Deduction are, in many ways, mirror reconstructions of the universe drawn by inference from data and implication of classifications. This is less true with Abduction, and I suspect the power of the reversed, full sign, is the power of Abduction which discovers and invents as much as it reconstructs—the difference in the two activities being semiotically moot.

Finally, it might help to give the totals of the ten trichotomies so one can compare them at a glance in Table 8.

Table 8. A summary of sign vectors

	Se	*Sp*	*Si*	*Sng*	*Sa*	*Sd*	*Sl*	*Sh*	*Sf*	TOTALS
I	6	7	5							18
II	9	14	10	5	7	5				50
III	5	7	5	10	14	10				51
IV				5	7	5				17
V										
VI							5	7	5	17
VII				10	14	10	5	7	10	56
VIII										
IX				5	7	5	10	14	5	46
X						5	7	5		17
Fl Sgn	5	7	5							17

Total Number of Vectors: 289

As far as the ten classes of signs, what should immediately should strike one's notice is the emptiness of Peirce's fifth and eighth classes. Neither has any occurrences from the permutations, which seems odd for two classes which are exemplified by Peirce as "diagram" and "a common noun" (2.258 and 261), but this should be expected, since Peirce makes it clear that both will function with replicas: the Rhematic Symbol will be embodied in the Rhematic Indexical Sinsign, which is one of the higher totals of fifty-one occurrences, and the Iconic Legisign will generally involve the Iconic Sinsign, which has a total of fifty occurrences.

It is not that the sign vectors do not exist, it is just that they are embodied in the sinsign/legisign in actual existence with objects. The second thing to be observed is the largest number of occurrences in the Dicent Indexical Legisign and the somewhat large number of occurrences in the Dicent Symbol. These are expressly useful vectors for signs in a world of objects, for their indexical and propositional qualities allow the world of seconds to be treated by the Mediating thirds. A third interesting phenomenon is the clustering of the occurrences toward the first trichotomy and the third trichotomy , for the brute force of secondness is one absolute and the wispy potential of firstness is the other absolute, which frame the sign. The only oddity is all the full signs occur in the first trichotomy, and the third trichotomy produces only reversed signs. On first blush, that seems backwards, but one needs to remember that the Cubed Tri-Square already contains a sequence of firsts, seconds, and thirds in the three tiers. Again, I do not think this is an error, but rather a pattern which reflects the true potential of firstness, with, of course, lots of margin for miscuing, to produce signs of an approximate nature. To give too much credence only to thirdness would be to break the tri-relative relation and to begin to create paired relationships, which was exactly what Peirce thought we should not do, nor that we could do!

Chapter Six

Triadomany embraced: the role of interpreters, interpretants, and interpretance

> The crow wish'd every thing was black,
> the owl, that every thing was white.
> William Blake, "Proverbs of Hell"

Surely one of the most provocative notions in Peirce is his idea of interpretants. The miscues of Morris or Ogden and Richards not-withstanding, the concept of interpretant opens up the vast territory of Semeiotic. Sojourners need no longer sail only along the shores of reference and denotation but may venture into the open oceans of intention, cultural context, and intertextuality. Of course, some authoritative source for the sign is not an unusual concept, for from the early Greek speculations on the sign to the Logical Positivists, the separation of motivated signs and conventional signs, the Aristotlean emphasis on inference, the Platonic quest for the Forms, and the general anxiety over the sophist controversy were all attempts to find some regularity in the sign. The conflations of signal and symptom, or of stimulus and suasion, into the motivated sign and the conflations of subjectivity and symbol, or of arbitrary and aesthetic dimensions, into the conventional sign are attempts to deal with the ability of the sign to change and yet realize a regularity of idea or universe which allows human beings to communicate and discover. Peirce seems to have recognized this essential function of the sign, and he tried to avoid the implicit duality of most sign doctrines by developing his idea of the tri-relative influence in the sign. Thus, his notion of thirdness in the sign is an attempt to regularize the sign without being lost in "an endless series"[63] of binary operations of reference and convention, and of course, the marker of that thirdness in the sign is the interpretant, a notion which launched Peirce fully into the deep global currents of the logic of discovery.

At first, the chief focus in Peirce's categorical thinking is on the distinctions between the process of representation and the notion of the sign as a concrete, understandable, and human entity, and the more general notion of an analytic Representamen. As he puts it,

> I must begin the examination of representation by defining representation a *little* more accurately. In the first place, as to my terminology, I confine the word *representation* to the operation of a sign or its *relation to* the object *for* the interpreter of the representation. The concrete subject that represents I call a *sign* or a *representamen*. I use these two words, *sign*, and *representamen*, differently. By a *sign* I mean anything which conveys any definite notion of an object in any way, as such conveyers of thought are familiarly known to us. Now I start with this familiar idea and make the best analysis I can of what is essential to a sign, and I define a *representamen* as being whatever that analysis applies to. (1.540)

Peirce then draws this distinction to a final and important point by saying, "In particular, all signs convey notions to *human minds*; but I know no reason why every representamen should do so" (1.540).

One should note here that without this last point, Peirce's distinctions might be simply another in a series of bifacial definitions of sign stressing the imputed relation between the sign and its object to some interpreter. But obviously something has happened here. Not only does Peirce want to increase the territory of the sign from just "human minds" to that "of everything that, antecedently to any analysis, we should be willing to regard as conveying a notion of anything" (1.540). But he also wants to emphasize the analytic process applicable to signs as representamen in order to defuse the psychologism in the notion of "interpreter".

Although Peirce is among the most enthusiastic explorers of the relation of the human mind and the sign, he refuses to accept the psychologistic nulism that the mind must be the thing that holds the parts of the sign together. Such acceptance would be to surrender to the relativism implicit in the notion of conventional signs or to be becalmed in the currents of idealism. Rather he searches for the triadic relations that would operate in signs even if there were no mind, for what is at issue is the nature of logical relations and a critique of the simplistic notion of motivated signs. Thus, in the next paragraph, he defines a representamen as "a subject of a triadic relation TO a second, called its OBJECT, FOR a third, called its INTERPRETANT, this triadic relation being such that the REPRESENTAMEN determines its interpretant to stand in the same triadic relation to the same object for some interpretant" (1.541).

Here, then, is one of the most important points in Peirce's Semeiotic: a shift from interpre-*ter* to interpre-*tant*, or from the personage of interpreting to the semiotic process of interpretation, for although the notion here is still germinal and even though Peirce will not always be consistent in his use of the term, the interpretant function is less of a specifically human operation than it is an operation of the sign itself. In fact, the regularity of the interpretant is a notion based on the genesis of the categories and the process of prescission as "antecedently to any analysis". Thus, by inverting Cartesian doubt into prescission and Kantian intuition into semiosis, he is able to separate out the implicit necessity of a human mind as the binding operator in semiosis. The analysis, of course, still allows, as it must, the existence of an interpreter, but in this line of thought the interpreter is just a user of the interpretant. In short, what is being described by Peirce is the act of semiosis, not just an act of human intelligence.

6.1. The prescission from interpreter to the interpretant

In developing the categories, Peirce draws a clear distinction between prescission and precision, based on whether there is an assertion of existence or not (4.235). Thus, prescission makes no assertions about the other elements from which it is separated, whereas hypostatic abstraction does assert existence (at least) about the other elements from which it is abstracted. These two processes, as subsets of Abstraction, reflect much of the first and second categories, for prescission is a separation in possibility only, and hypostatic abstraction is basically dyadic and factitious. By these processes Peirce is able to articulate the embodiment and replica processes of the sign and to develop both the Nine Types and Ten Classes of signs.

But since Peirce always finds it necessary to look for a trichotomy in things, it is likely that Peirce is trying to articulate a trichotomy of abstraction. For example, in "The Categories in Detail", Peirce defines dissociation, prescission, and distinction (1.353) as three kinds of abstract separation. Prescission, dealing with potentiality is obviously a first, and dissociation is clearly a second, but one wonders if distinction is a third. As it is described, "even when one element cannot even be supposed without another". it seems to be more of a separation of dyads, or a kind of degenerate form of abstraction. If this is so, what then is the thirdness of abstraction? Since the dyadic

quality of distinction is based on an implied, but not necessarily articulated, set of rules, I would suggest that the third of abstraction lies in the action of the interpretant, for as part of the tri-relative influence it cannot be separated into pairs. Therefore, the third process of abstraction is what I will call *interpretance*, for such would participate in the triadic quality of representation and it would explain the complexity of the concept of interpretant.

It has been all too easy for scholars to hear the word "interpreter" in Peirce's choice of terms for the tri-relate in semiosis. In fact, Peirce himself heard that notion (as I expect any sign user does), for he used a translation metaphor in "On a New List of Categories" (1.553) to explain the triadic function of sign: "Such a mediating representation may be termed an interpretant, because it fulfills the office of interpreter, who says that a foreigner says the same thing which he himself says" (1.553). Or as he put it in "The Regenerated Logic" as a kind of evolutionary speech-act theory:

> When an assertion is made, there really is some speaker, writer, or other sign-maker who delivers it; and he supposes there is, or will be, some ... other interpreter who will receive it. It may be a stranger upon a different planet, an eon later; or it may be that very same man as he will be a second later. (3.433)

But even such a provocative notion was evidently not sufficient, for Peirce also uses the ambassadorial metaphors of "the spokesman, deputy, attorney, agent, vicar" (2.273), the Sheriff (5.48), and others to get, I suspect, more of the notions of law, obligation, or representation. He also uses the concept of "interpreter" fairly consistently in presenting the Existential Graphs because they are analytical messages to a reader/viewer. And he often uses "interpreter" to refer to something like the interpreting mind because a major dimension to signs is their use by minds. Nevertheless, he increasingly finds it necessary to shift the focus from a human actor to a sign's action because the idea of "interpreter" is one fraught with problems.

6.1.1. The problems with interpreters

The first problem in the interpreter model is, of course, the psychological implications which Peirce continually sought to avoid. To use

an actor suffix is to hypostatize a personage and a particular, individual mind, as Ogden and Richards clearly believed. Such usage creates all the problems of the self-created and self-serving "Speaking Subject", easily becoming the psychologistic black box explanation of all problems by a final homunculus and a Transcendental Self. Peirce was not willing to accept a psychologic explanation by Will, Choice, or Judgment, not so much because he rejected those constructs but rather because psychologic attempts to use them often refused to examine the semeiotic and logical operations used in the very constructs. If Peirce had to throw a "sop to Cerberus", it undoubtedly lay in this area, for he was not just interested in human semiosis, but in the whole range of signing activity by all living matter, and perhaps even in non-living matter, whatever that may be. However, it is a perceptual fact (and perhaps a sad one) that most of us (myself included) interested in semiosis often think first in terms of our own human signing. I suppose we can be forgiven human fallibility on first blush, but as Peirce's own rigor and development suggest, to persist in total self-relevance is to be naive, if not maliciously ego-centric, and we are obligated by the emphasis upon the structure of our enterprise to broaden our area of investigation.

Another problem for that "interpreter" construct is the rather naive notion that "interpretation", of the linguistic sort at least, is a kind of automatic translation, and one does see Peirce using the lexicon/dictionary model for this metaphor (1.553), which is based on the further notion that translation from one language to another is a process of coordinating lexicon to lexicon. I would grant that such an example is an easily understood one, which is undoubtedly the reason Peirce chose it, but for literary and linguistic people, the silliness of that notion is patently obvious, for the dictionary/ lexicon model of translation is simply bad translation! It misses all the beauty, accuracy, and subtlety that exist in the differences between idioms, syntactic nuances, textual traditions, rhetorical expectations, performative frames, and functions of voice, tone, or rhythms of one language and another. Such a conception of translation does not even work in two languages as close as French and English, but when one moves outside the confines of dilapidated Roman influence and the remote roots of Ur-Indo-European, the conception shows its own absurdity. Moreover, this model is not just a matter of bad esthetics or miscued cultural convention; it also is bad logic, a matter that Peirce would consider of major importance; so one finds Peirce broadening even the

notion of interpretation to be more inclusive and more reflective of the complexity of the notion of interpretance.

The logical dysfunction of the automatic lexicon model is much the same as that in the early machine translation programs; it is based on a simplistic notion of repeated algorithms (of lexicon or syntax) as the vehicles which will make translation automatic. As most know,[64] those early programs in Artificial Intelligence did not work because the algorithms were so automatic that even in huge programs, the necessities of scanning all syntactic and semantic possibilities not only ate up enormous amounts of time and memory, but they also produced the host of stupidly literal translations such as "The Spirit is willing, but the Flesh is weak" rendered as "The Vodka is good, but the meat is spoiled."

Obviously the act of the interpretant is more complex than such a notion of interpreter, and AI programmers have gone on to develop the necessary complications. George Johnson, in *Machinery of the Mind* (1986) gives an accessible lay account of the devices which AI programmers have developed to deal with the interpretant function (although he calls it "the Meaning of Meaning") in language translations, and they consist of things like Augmented Transition Networks (ATN's) for adding in the complexities of semantic and syntactic parsing (1986:105), heuristics to aid in unraveling ambiguities (1980:116), and narrative frames that give access to the encyclopedic nature of knowledge. Such devices are necessary since lexicons and dictionaries are already culturally structured lists of semantic items, and a number of cultural maps are already implicit in the organization of the lists; that is, they have already been "interpreted" along specific taxonomic or typological lines which may have little to do with the actual complexity of the sign's function.

A third difficulty with the "interpreter" model goes directly to the core of what Peirce wanted to identify with it, the rule of law, and that is reflected to some extent in both the automatic translation naivete and the heuristic problems in computer programming. Just how binding is the rule of the interpretant? It is certainly not as binding as "natural law", perhaps it is not even as binding as judicial law? If it were, we would certainly have less confusion in communication; we never would have had to face the supposed differences in motivated and conventional signs instituted by Aristotle; and there is a good chance there would be no such study as semiotics. The law and rule of interpretants is a wide and loose rule of "self-

control" (4.540) with a tremendous amount of latitude existing between the sign, the object, and the User. As Peirce's arguments suggest, there is certainly a process of approximation in the laws of nature and even the laws of the sign.

So, I suspect the reason that Peirce chose the ambassadorial role is that ambassadors, although they will have much legal weight, will have a general set of diplomatic instructions and credentials. They will have to face some sort responsibility for their actions, but will nevertheless have a substantially mediating role driven by particular, if complex, purposes or aims. They are patients/ agents who represent one power to another, usually without any force of arms or law to make their case. They may be reasonably trusted to have their own emissary's interests in mind and behavior, but they always have to play a triple role. They certainly represent the emissary power to the residential power, but they also represent the residential power to the emissary power, and to be sure, they must also represent not only their own powers of persuasion, reason, and justice, but they must represent the ambassadorial craft and historical mind set as well. The ambassadorial responsibility is, after all, a large one, both in terms of prestige and of historical import, but also in terms of the notions of purpose and aim.

Now it would be easy to drive this metaphor into the heart of the interpreter model like a wooden stake into the heart of a vampire, but that is not the goal here. What must be seen is that the interpretant is engaged in the act of interpretance—the semiosic action of mediating and representing one thing to another within the context of law, very much like Peirce saw logic and semeiotic. Thus, it is possible to speak of the interpretant's generic behavior, as a general rule of sign behavior, and of the specific operations of an interpretant, within specific classes of signs. There are rules and laws here, but they operate in an evolutionary manner with representation and interaction, understanding and double consciousness, feedback and re-direction, etc. And if one expects to comprehend that process one has to establish articulations of those rules, not as a decalog nor a penal code, but as the basis of critique, for the Community of Inquirers will, after all, be the judge of the interpretance. The repeated confrontation and communication of inquirers work together as a kind of regulation of the rules to see that there is a consistency and a justice to what one does.

Of course, one probably does not need a new term in Peirce, but I still wish to develop the term interpretance anyway[65]. Obviously Peirce saw the tri-relative relation of the sign as an "influence not

... in any way resolvable into actions between pairs" (5.484) even if by prescission one can discuss the "individual" units within the tri-relative influence or even if one can make dyadic distinctions between the parts. What the tri-relative influence precludes is the process of disassociation of the sign parts, for the interpretant is, in fact, determined by the prescissive nature of the sign even if "reference to an interpretant cannot be prescinded from reference to a correlate" (1.553) because "reference to an interpretant is rendered possible and justified by that which renders possible and justifies comparison[,] ... clearly the diversity of impressions" (1.554). But the diversity of impression is constructed from the prescissive characters of firstness and ensigned by thirdness. "Thus, the reference to an interpretant arises upon the holding together of diverse impressions, and therefore it does not join a conception of being to the substance, as the other two references do, but unites directly the manifold of substance itself. It [thirdness, or interpretance] is, therefore the last conception in order in passing from being to substance" (1.554). Moreover, since objects function with the iconic and indexical modes as Representamen, and since interpretants lead to other interpretants, it is likely that the action of interpretance is the substance of the tri-relative influence.

6.2. Interpretance as an act of conscission

Therefore, I would like to define interpretance as a rule of self-controlling association which joins the sign with its object; or as Peirce puts it, "to put together the different subjects as the sign represents them as related—that is the main [i.e., force] of the Interpretant-forming" (8.179). Generically, interpretance will work on a principle of "as if it were" (8.337), or as Peirce puts it, a "Would-be" rather than a "Can-be" (8.305), and I suspect such a process is really the inverse of prescission, for as prescission separates elements in thought with consideration of the ground, so interpretance joins elements without consideration of the ground. Interpretance is an act of *Conscission*,[66] to play further the Peircean game of creating words, literally *a cutting together*, or something like the representational structures of Ligatures, Cuts, and Bridges in the Existential Graphs (4.555). A conscission represents the Fifth Convention of the Graphs in which "Two partial Graph-Instances are said to be *indi-*

vidually and directly connected" (4.562). It joins "*attention to* one [set of] element[s] ... [without] *neglect of* the other[s]", (1.549) to invert Peirce's definition of prescission. Rather it "conscinds" one element to others, but it is something qualitative different from hypostatic abstraction. It does not necessarily assert existence, but it may do so. It covers the entire range from contemplation to urging to submission (8.338), but it does so without reduction to a classification, and it is conscissive rather than concise.

Interpretance is an activity engaged in the "dissection in hypothesis" (5.449), but of "a peculiar kind", to use Peirce's phrase. The peculiarity of interpretants is that they join the sign (as representamen), the object, and other interpretants into the semeiotic network. They are the third element which exists in any classification, for "all association is by signs" (5.309); that is, the principle that is used to join one set of elements together and to separate them from another set. That particular kind of dissection is mediation, as paradoxical as that may sound, for mediation is by its very nature a bifacial, bivalent dissection, but the mediating quality of the interpretant joins an unprescindable firstness of potentiality to an incomprehensible secondness, as the Absolutes which frame semiosis and our sentience. It is the essential function of the interpretant that drives the embodiment and replica processes to give signs both their potential and actual occurrences, and interpretance is the reason Peirce finally tries to deal with six of the ten trichotomies in terms of interpretants.

Peirce uses prescission to develop the three categories, and he examines the "tri-relative influence" by use of trichotomized division of the categories and their applications to sign phenomena. Since thirdness is the rule of law, in its Peircean sense of regularized habit and self-control, the role of interpretance is the functional ensignment of regularity with an appropriate respect for the necessary approximations in any digital system. The rule of association is a hypothetical dissection or hypothetical conscission, except rather than isolating the parts and elements into hypostatic abstraction, they are seen as the moving influence of an evolutionary principle of growth; they are conscissive. In short, the function of the interpretant is systemic; rather than a correlative it is a tri-relative relation that embodies semeiotic growth. Over the long run, Peirce sees interpretance as having the three specifically trichotomized vectors of firstness of the sign itself, secondness of objects, and the thirdness of interpretant relation, often expressed as Icon, Index, or Symbol. Generally

given the rules of association, the iconic rule is based on similarity, the indexical rule is based on causative contiguity, and the symbolic rule is based on conventional rule.

6.3. The replicating interpretant

It was obvious to Peirce from his investigation of the "triad of reasoning" that the logical concept of the interpretant needed to be broadened. For example, in the "Apology for Pragmaticism", he identifies the trichotomy of the rheme, the proposition, and the argument as the "familiar logical triplet" and says, "in order to make this *a division for all signs* [my emphasis], the first two members have to be much widened" (4.538). He then proceeds to introduce three alternate terms: the *Seme* as "anything which serves for any purpose as a substitute for an object of which it is, in some sense, a representative or Sign"; the *Pheme* as "a Sign which is equivalent to a grammatical sentence"; and a *Delome* as "a Sign which has the Form of tending to act upon the interpreter through his own self-control, representing a process of change in thoughts or signs" (4.538). As I have argued, Peirce seems to take an ambivalent stance with the rheme and the proposition in regards to their different functions logically and semiotically. The rheme is basically taxonomic incarnating feelings into semiotic predicates whereas the Proposition utilizes the duality of secondness to develop the grammatical yoking of subject and object. Whereas the rheme is concerned with the devolution of Total Freedom down to names of grouped characteristics, the proposition is concerned with the ultimate experience of secondness Resistance. What is missing in both is that they, being so bound by their genesis in logical analysis, are too closely tied to the acts of minds. Peirce apparently wants to widen their window of opportunity to deal with all the problems implicit in the infinite degrees of vividness in firstness and the ultimate separation which exists in the interfaces of digital and analog systems, what Anthony Wilden calls the "problem of punctuation" (1972:123).

But when Peirce comes to the argument, this same widening, although not mentioned above, also proves necessary, for the tri-relative influence will, as a matter of signing fact, determine the signification process of the interpretant. The argumentative use of that signification process turns out to be a special adaptation and critique of

those processes because the simple distinction of intellectual concepts from non-intellectual concepts "does not tell us just what the nature of the *essential effect* [my emphasis] upon the interpreter, brought about by the sēmiósis of the sign, which constitutes the logical interpretant" (5.484). As Peirce tried to examine the function of the interpretant, he apparently was increasingly forced to articulate more and more what the essential effects of the interpretant were while remaining faithful to his original definition of the sign. Thus, the window of opportunity for the argument becomes a matter of its embodiments and its replicas.

As I have argued, it is necessary that the logical effects of interpretants be subsumed under a more general idea because arguments always carry with them "leading principles"; therefore, it seems to me the way to understand the semiotic import of Peirce's widening of the triad of reasoning is, first of all, to examine the various roles of the interpretant as Peirce tried to structure them and then, secondly, to look at how the concept of interpretance can be used to complicate, or even better, to generalize, the function of the interpretant in semiosis. If there is an essential effect of the interpretant on an interpreter, Peirce makes it clear that the logical interpretant is less than the whole story. The interpretant is a driver for the power of the Semeiotic, not only to represent argument and epistemological discovery, but also to create signs itself, or even signs of itself. The interpretant replicates, not like the binary with just an endless series, but rather with both an "infinite regression"[67] and an infinite progression so that interpretant-forming becomes the whole fabric of human understanding and perhaps of life itself. Interpretance, if I can fully articulate it, should serve to help us understand how the interpretant can go from the initial concepts of interpreter and/or spokesman to something as complex as the notion of shared objects with single interpretants, of at least nine or ten different kinds of interpretants, and a universal semeiotic function of thirdness.

6.4. The types of interpretants

My adaptation of the Tri-Square, in Figure 8, renders some nine types of interpretants, with a trichotomy of the representamen as the emotional or quali-interpretant, the possible or syn-interpretant, and the immediate or legi-interpretant; a trichotomy of the object as energetic

energetic or iconic interpretant, the actual or indexical interpretant, and the dynamic or symbolic interpretant, and a trichotomy of the interpretant as logical or rhematic interpretant, the habitual or dici-interpretant, and the final or argu-interpretant. But I have also pointed out that only seven of these are actual peircean categories and that two of these, the possible and actual are extrapolated terms from peirce. However, there are other names which peirce tried for the functions of the interpretant; for example, the possible interpretant could easily be called the "signified interpretant" (8.337), or as I suggested in a previous chapter, the Immediate Interpretant could be called "singular" or "embodied". Or the Habitual Interpretant could be Peirce's Intended Interpretant (5.175) emphasizing intent and purpose, or the Energetic Interpretant could be called the "Indirect" or "Imperfect" Interpretant (2.294) because of its relation to the object.

However, the terms used are less important than understanding that Peirce had begun to think of the interpretant in terms of various trichotomies. He considered the interpretant as a tri-relative structure, for as he put it to Lady Welby, the sign has "three interpretants, its interpretant as represented, or meant to be understood, its interpretant as it is produced, and its interpretant in itself" (8.333). And these "three interpretants represent the three categorical states of the interpretant: one of thirdness (4.536); one of secondness (Hardwick 1977:84), and one of firstness (5.475). I think these trichotomies were generated because of the various problems he met in the development of the semeiotic, particularly the difficulties he had with the approximate nature of the sign, the ultimate separation between the Immediate and Dynamic Objects, the assertoric role of propositions, and the differences in argument and argumentation. Peirce clearly will not play the Nominalist, nor he is apparently willing to settle for a purely dynamic and reductive universe. His concept of the sign is as

> a Cognizable that, on the one hand, is so determined (i.e., specialized, *bestimmt*) by something *other than itself*, called its Object (or ... the Complexus, or Totality, of Partial Objects), while, on the other hand, it so determines some actual or potential Mind, the determination whereof I term the Interpretant created by the Sign, that Interpreting Mind is therein determined mediately by the Object. (8.177)

Thus, the task is, as Joseph Esposito describes it, to find the semiotic connective between the ideal world and the actual world, between the Platonic real and the physically actual, and the path to that connective is to understand the complex role of interpretance.

6.5. Interpretance of the first trichotomy

Peirce argues, in "A Survey of Pragmaticism" that the only way to solve the problem of intellectual concepts is "by the study of the interpretants, or the proper significate effects, of signs" (5.475). The term *effects*, of course, suggests something of a dyadic function, but the use of the qualifying adjective *significate* suggests more strongly, since he is concerned with interpretants here, that the issue is the role of the interpretance in relation to the sign, for he follows it with "three general classes" of interpretants.

6.5.1. The emotional interpretant

First, he discusses the emotional interpretant by saying,

> The first proper significate effect of a sign is a feeling produced by it. There is almost always a feeling which we come to interpret as evidence that we comprehend the proper effect of the sign, although the foundation of truth in this is very slight. This "emotional interpretant", as I call it, may amount to much more than that feeling of recognition; and in some cases, it is the only proper significate effect that the sign produces. Thus, the performance of a piece of concerted music is a sign. It conveys, and is intended to convey the composer's musical ideas; but these usually consist merely in a series of feelings. (5.475)

This is how the quali-interpretant functions. It would still have some of the general nature of the sign, but it would tend to be a primary emphasis upon character and potentiality of feeling. Music is certainly a good example, but other art forms, mostly of the non-verbal varieties, would do equally well. In fact, the aesthetic would have signed existence as a quali-interpretant, for Beauty finds its signed expression in the predicate "beautiful" (5.291). But the quali-interpretant will

not just be aesthetic, it will express the whole range of non-rational sign behavior as sensation or emotion without rational character (5.294). Surely there are, also, verbal emotional interpretants ranging from the suprasegmentals of linguistics to the emotional functions of voice, tone, pitch, rhythm in poetry.

Since signs are media specific and form networks of perceptual judgments, there is likely to be an emotional quality to any sign. I suspect that any level of a semiotic system, which has yet to become cognizable, will feed emotional interpretance. Thus, kinesics, proxemics, pheroromic studies, on the micro side, or symptomology, mythology, psychology, anthropology, or any bio-cultural patterning, on the macro side, can be an emotional interpretant depending on one's level of knowledge of the particular system. I also imagine that the emotional interpretant is the primary vector for Abduction, for its feeling is not some emotionalism as much as it is a feeling of potential. It is all too easy to over-read the use of "merely" in Peirce's description, but one ought to remember that he uses that term prescissively and heed the fact that Peirce also recognizes a "foundation of truth" in the emotional interpretant even if "frequently very slight". At this margin of the semiotic systems, things are even less precise than approximations, but then "no cognition and no Sign is absolutely precise, not even a Percept" (4.543).

What operates at the emotional level of interpretance is a potentiality of prescission because prescission, and its indefiniteness here, like the abductive proposition, will be "of two kinds, indefiniteness as to what is the Object of the Sign and indefiniteness as to its interpretant, or indefiniteness in Breadth and Depth" (4.543). The emotional interpretant is not some mere self-expression full of subjective emotionalisms, but it is "expressiveness" (5.132) that is fundamental to the logic of discovery, for as Peirce argues with the logical interpretant, emotional interpretants may be the "first logical interpretants [which] stimulate us to various voluntary performances in the inner world" (5.481).

6.5.2. The energetic interpretant

Peirce then turns to the second significate effect as the Energetic Interpretant, which is itself, as a first, embodied (although here Peirce uses the term *mediation*) in an emotional interpretant:

> If a sign produces any further proper significate effect, it will do so through the mediation of the emotional interpretant, and such further effect will always involve an effort. I call it the energetic interpretant. The effort may be a muscular one, as it is in the case of the command to ground arms; but it is much more usually an exertion upon the Inner World, a mental effort. It never can be the meaning of an intellectual concept, since it is a single act, [and] such a[n intellectual] concept is of a general nature. (5.475)

This is prominently an emphasis on secondness because of the necessity of effort in the energetic interpretant, and as such it is clearly dyadic, but one might question whether it is iconic or not. Yet when one turns to Peirce's example of the Four Color Map problem (5.490f), one sees a clearly diagrammatic problem. There, the "Inner World" is "thrown into a state of high activity in the world of fancies, in experimenting upon coloring maps, while trying to make out what subconscious rule guides him" (5.490). Thus the "exertion upon the Inner World" can clearly be an iconic action, and I would argue that the icon does exactly that, for the similarities generated in classification and naming are exertion. The reason I thought this interpretance function would belong to firstness in the tri-square is because of the iconic potential suggested here and in Peirce's example.

6.5.3. The logical interpretant

After Peirce has named these two significate effects, he asks "But what further kind of effect can there be?" And he answers by describing the logical interpretant as something possibly larger than just a "general concept" or even an "intellectual" sign. As he says,

> In advance of ascertaining the nature of this effect, it will be convenient to adopt a designation for it, and I will call it the *logical interpretant*, without as yet determining whether this term will extend to anything beside the meaning of a general concept, though certainly related to that, or not. Shall we say that this effect may be a thought, that is to say, a mental sign? No doubt, it may be so; only, if this sign be of an intellectual kind—as it would have to be—it must itself have a logical

> interpretant; so that it cannot be the *ultimate* logical interpretant of the concept. (5.476)

Peirce's somewhat circular answer here is not evasive, for it does make important and necessary distinctions having to do with the differences between a general concept and an intellectual one in the infinitude of a propositional series. He really is setting up the conditions for answering his original question about the meaning of interpretants in terms of psychological versus semeiotic operations.

What is at issue in this third of the first trichotomy is the role of mental effects; so he goes on to say that

> It can be proved that the only mental effect that can be so produced and that is not a sign but is of general application is a *habit-change*; meaning ... a modification of a person's tendency toward action, resulting from previous experiences or from previous exertions of his will or acts, or from a complexus of both kinds of cause. It excludes natural dispositions, as the term "habit" does, when it is accurately used; but it includes beside associations, what may be called "transsociations", or alterations of associations, and even includes *dissociation*...." (5.476)

Peirce clearly wants to complicate the notion of psychological impact of signs by linking it to Habit as part of growth. So he contends that "Habits have grades of strength varying from complete dissociation to inseparable association. These grades are mixtures of promptitude of action, say excitability and other ingredients not calling for separate examination here" (5.477). Thus, the thrust of interpretance for Peirce is the whole "principle of growth of principles"—a complexus of experience and/or will that includes the whole range of logical and emotional operators.

The aim of the semeiotic is aim, intent, or purpose, and Peirce is trying to determine the sequences of steps that lead from Feelings to Purpose. So, he defines "three classes of events causative of habit-change" (5.478). First, there are experiences forced upon the mind which break up associations or experiences that support inductions by strengthening associations. Second, there is muscular effort, which although "nothing like a concept can be acquired by muscular practice alone", can, when combined with "accompanying inward efforts,

the acts of imagination", produce associations or dissociations of habit (5.479). And third, there are logical interpretants which can direct human mental and physical effort toward habit change.

Peirce then discusses logical interpretants in terms of the stages of their development by stressing that "ideas are the *first logical interpretants* of the phenomena, that suggest them, and which, as suggesting them, are signs, of which they are the (really conjectural) interpretants" (5.480). These conjectural interpretants, like abductive propositions,

> stimulate us to various voluntary performances in the inner world. We imagine ourselves in various situations and animated by various motives; and we proceed to trace out the alternative lines of conduct which the conjectures would leave open to us. We are, moreover, led, by the same inward activity, to remark different ways in which our conjectures could be modified. The logical interpretant must, therefore, be in a relatively future tense.
>
> To this may be added the consideration that it is not all signs that have logical interpretants, but only intellectual concepts and the like; and these are all either general or intimately connected with generals, as it seems to me. This shows that the species of future tense of the logical interpretant is that of the conditional mood, the "*would-be.*" (5.481-82)

So Peirce has drastically complicated the idea of the interpretant, for now it is both general and non-general, dissociative and associative, habit-changing and conjectural, etc. Yet this very complication creates "a quandary" for Peirce until he realizes that mathematics provides a plentiful field of examples of future, conditional propositions even if "this does not quite tell us what the nature of the essential effect upon the interpreter, brought about by the sēmiósis of the sign, which constitutes the logical interpretant" (5.484). He then concludes his discussion of logical interpretants with the statement that the general nature of semiosis, as a tri-relative influence, is "a sufficiently close analogue of a modification of consciousness to keep our conclusion pretty near to the general truth" (5.845), and he stresses that "it would be easy to show (were it worth the space), that the logical interpretant is an effect of an energetic interpretant, in the sense in which the latter is an effect of the emotional interpretant....

Therefore, there remains only habit, as the essence of the logical interpretant" (5.486).

Peirce then ends "A Survey of Pragmaticism" with an example of how this might work in the problem of the Four Colored Map, and he traces the kinds of activities, inner and outer, that someone might experience in trying to solve this famous mathematical problem:

> the activity takes the form of experimentation in the inner world; and the conclusion (if it comes to a definite conclusion), is that under given conditions, the interpreter will have formed the habit of acting in a given way whenever he may desire a given kind of result. The real and living logical conclusion *is* that habit; the verbal formulation merely expresses it. I do not deny that a concept, proposition, or argument may be a logical interpretant. I only insist that it cannot be the final logical interpretant, for the reason, that it is itself a sign of that very kind that has itself a logical interpretant. *The habit alone, which though it may be a sign in some other way, is not a sign in that way in which that sign of it is the logical interpretant is the sign.* [my emphasis] (5.491)

I have quoted Peirce at length here because even if his syntax is tortuous and his argument is difficult to follow, three points should be clear: one, he understood that the interpretant functioned in a variety of ways; two, it is necessary that one be clear as to whether one was discussing intellectual concepts or some other kind of semiotic activity; and three, the level of generality that is operating in the interpretant will have a great significative effect upon how the interpretant functions.

6.6. Interpretance of the third trichotomy: the triad of reasoning

This need to articulate the level of generality and to have clarity about intellectual concepts shows itself most persistently when Peirce discusses the "triad of reasoning" as term, proposition, and argument, for here the nature of the logical interpretant is most crucial if there is to be any connection between the function of the semeiotic and logic. As my previous comments on that triad suggested, the broadening of the Rheme and the Dicisign to the Seme and the Pheme

does much to answer the problems of the differences between assertion and pure signification (8.337). Also, Peirce seems to have thought that when he had solved the problems of assertoric quality in the term and the proposition, he would also be solving any problems which could exist with secondness and interpretants, for the proposition is epistemologically the avenue to knowledge. Its dyadic nature is moved by the triad to thirdness of assertion and/or belief, but "the triad brings a third sort of element, the expression of thought, or reasoning, consisting of a colligation of two propositions, not mere dyadic propositions, but general beliefs; and these two propositions are connected by a common term and to produce a third belief. They not only tend to make the belief, but they also tend to render it true" (1.515). Thus, the differences between assertion, signification, and belief seem to be an interface between secondness and thirdness, for it allows Peirce to establish both the validity and truth functions of logical operations.

6.6.1. The fracture of objects and the shared interpretant

But a solution which leads to operations for both validity and truth also leads to the development of the primary object and the secondary object (2.311) which, while helpful in solving the problem of the assertoric quality of an Index, creates the difficulty of a shared interpretant, and that is surely another reason that Peirce has to complicate the role of interpretance. For example, when he discusses propositional dicisigns in the "Syllabus of 1902", he points out that the only way a dicisign can have "a real being independently of the representation" (2.310) is by a genuine Index. Then as he proceeds to see "what sort of sign ... represents itself to be a genuine Index of its Object, *and nothing more* [my emphasis]" (2.310), he substitutes the interpretant's representation of the existential relation for "an identity of the Dicisign with a genuine Index of the Dicisign's real Object. That is, the Interpretant represents a real existential relation of genuine secondness, as subsisting between the Dicisign and its real Object" (2.310).

Peirce then follows with an odd notion that seems, on first reading, to contradict the ability of the interpretant always to relate to other signs: "But the Interpretant of a Sign can represent no other Object than *that of the Sign itself*" [my emphasis] (2.310). But the key

emphasis here ought to be on "no other Object than that of the Sign itself", for Peirce is trying to solve the specific paradox in the semeiotic of logical assertion: that is, the "object of representation is not *ipso facto* real" (5.96). Thus, he goes on to discuss the very difficult idea of two objects for one sign, the primary and secondary object (2.311). The double object is shared, "at once a part of the Object and a part of the Interpretant of the Dicisign; ... it must be represented in that same Interpretant to be composed of two parts, corresponding respectively to its Object and itself (the Dicisign)" (2.311).

6.6.2. Three different interpretants

This shared double object, I think, is the "impurity" of assertion (8.337) that requires the widening of the rheme and dicisign into seme and pheme and the development of the as-if-it-were qualification of interpretants made to Lady Welby. So it seems there are interpretants and there are interpretants; some emphasizing habits, some general, some not so general, some with assertoric qualities, some of with shared objects, some without. Apparently there are a number of triadic relations operating, and when Peirce comes to discuss the interpretance of the third trichotomy, he seems to have to meet the issues of the "ultimate logical interpretant" and "essential interpretant" straight on. In the "Apology for Pragmaticism", when Peirce defines an interpretant as "being that which the Sign produces in the Quasi-Mind that is the Interpreter by determining the later to a feeling, to an exertion, or to a Sign, which determination is the Interpretant" (4.536), he reiterates the duality of objects, but this time he casts them as a distinction between the "Immediate Object, which is the Object as the Sign itself represents it, and whose Being is thus dependent upon the Representation of it in the Sign, from the Dynamical Object, which is the Reality which by some means contrives to determine the Sign to be its Representation" (4.536). He then follows this form of the double object with a different trichotomy of interpretants. First, there is "the Immediate Interpretant, which is the interpretant as it is revealed in the right understanding of the sign itself, and is ordinarily called the *meaning* of the sign." Secondly, there is "the Dynamical Interpretant which is the actual effect which the Sign, as a Sign, really determines." And thirdly and

provisionally, because he confesses "that my own conception of this third interpretant is not quite free from mist", there is "the Final Interpretant, which refers to the manner in which the Sign tends to represent itself to be related to its Object" (4.536).

6.6.3. The logical emphasis in interpretants

It is out of this somewhat logical trichotomy of interpretants that Peirce develops his arguments about the Seme, Pheme, and Delome because he wishes to make "this a division for all signs" (4.537). He says he thinks it necessary to widen the only first two terms, but on closer inspection I think one can see that he is actually widening all three, for as he defines them: the Seme is "anything which serves for any purpose as a substitute for an object of which it is, in some sense, a representative or Sign"; the Pheme is "a Sign which is equivalent to a grammatical sentence ... intended to have some sort of compulsive effect on the Interpreter of it"; but a Delome is "a Sign which has the Form of tending to act upon the Interpreter through his own self-control, representing a process of change in thoughts or signs, as if to induce this change in the Interpreter" (4.538).

Since Peirce has already introduced the distinction of the Quasi-Mind, since this passage is part of a partial introduction to the Existential Graphs, and since he consistently uses the phrase "interpreter" in the Graphs, I will ignore his use of interpreter here and assume he is discussing the interpretance of signs, for in the next section, he goes to continue his discussion of the interpretants in light of these definitions. Thus, the issue being examined with the alternative terms is the issue of the percept and its relation to interpretance, and the relationship of interpretance to the Quasi-Mind's interpretation of the sign—a description which is surely a semiotic abstraction for the mental awareness of sign use. After identifying the Immediate object with the Percept and the Immediate Interpretant with Conduct, Peirce fames his discussion by saying, "Nothing is more indispensable to a sound epistemology than a crystal-clear discrimination between the object and the interpretant" (4.539), and he then gives one of his more compiex analyses of sign relations, as follows:

> A fact of Immediate Perception is not a Percept, nor any part of a Percept; a Percept is a Seme, while a fact of Immediate

> Perception, or rather Perceptual Judgment of which such fact is the Immediate Interpretant, is a Pheme that is the direct Dynamical Interpretant of the Percept, and of which the Percept is the Dynamical Object, and is with some considerable difficulty ... distinguished from the Immediate Object, though the distinction is highly significant. (4.539)

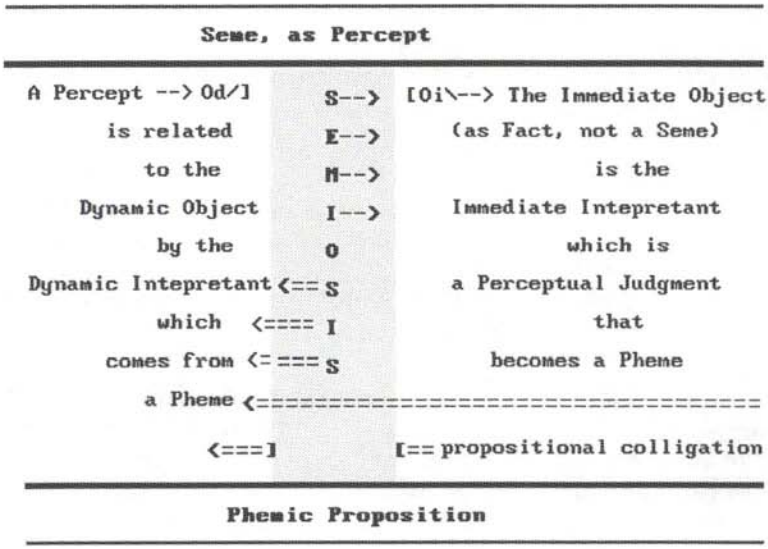

Figure 17. Cycle of stuff into sign

This is probably an accurate description of the multiple sign stages from the stuff of sensation to that of perceptual judgment, but I do not think most will find it crystal clear. So let me try to chart the relations suggested here by a diagram (Figure 17) that will show the stages of stuff becoming signs. Although the diagram is rendered as a table, it can be read either clockwise or counter clockwise starting at the point of approximation (the area shaded) which exists between the Dynamic Object and the Immediate Object. The process of ensignment is so represented to allow either generation and embodiment by a clockwise reading or analysis and replica relations by a counter-clockwise reading; this duality also models the very ambivalent difficulty

of dealing with this assertoric issue in secondness. But the main reason for this rather odd spatial rendering is that the "torque" involved here can be seen as either a left-handed or right-handed spin depending on what one wants to emphasize, either the digital sequence of a logical assertion or the more analog sequence of a sensation.[68]

Thus, if I understand Peirce rightly, there seems to be a circle of semiosis in a Perceptual Judgment; that is, the Seme, as Percept, becomes the predicate of the Phemic proposition by virtue of the Immediate Interpretant, and "the perceptual judgment is a proposition of existence determined by the percept, which it interprets" (4.539n). Moreover, if these phemic propositions are joined together in a "complex of percepts", they can become a

> Seme of a Perceptual Universe that is represented in instinctive thought as determining the original Immediate Object of every Percept. .... Finally, and in particular, we get a Seme of that highest of all Universes which is regarded as the Object of every true Proposition, and which, if we name it all, we call by the somewhat misleading title of 'The Truth.' (4.539)

Apparently, the tightening of the semiosic circle draws a more specifically determined boundary of truth and logical assertion that can escalate along a spiral path of greater and greater generality until one has built the architectonics of logic.

But Peirce's rather tight reasoning does not stop here. He goes on further to ask, "How is it that the Percept, which is a Seme, has for its direct Dynamical Interpretant the Perceptual Judgment, which is a Pheme?" (4.540) And his answer is "that it would be illogical for a pure Icon to have a Pheme for its Interpretant, and I hold it to be impossible for thought not subject to self-control as a Perceptual Judgment manifestly is not, to be illogical" (4.540). Peirce seems to think that since a Perceptual Judgment simply is, its icon need be neither logical nor unlogical. Since the pure Icon, with the maximum of firstness and the minimal of thirdness, is probably pre-logical if not a-logical, Peirce believes some other process is operating here to tie the Pheme to the Seme, and that process is the Conclusion, for

> Though an Interpretant is not necessarily a Conclusion; yet a Conclusion is necessarily an Interpretant. So that if an *Interpretant* is not subject to the rules of Conclusions there is nothing

> monstrous in my thinking it *is subject to some generalization of such rules* [my emphasis]. For any evolution of thought, whether it leads to a Conclusion or not, there is a certain normal course, which is to be determined by considerations not in the least psychological. .... In my opinion, it is self- control which makes any other than the normal course of thought possible, just as nothing else makes any other than the normal course of action possible. (4.540)

Thus, the connection between the Seme as Percept and the Dynamical Interpretant as Perceptual Judgment is the operation of the self-control of an interpretant which particularly functions as a Conclusion to allow understanding of the semeiotic connections and logical assertions being made. And when related to the process of abstraction the whole series of semes as Perceptual Universes and as patterns of "The Truth" evolve to become the fabric of logic. But as with Peirce's distinction of Argument from Argumentation, there is something more here than mere assertion, for Peirce's concept of "self-control" is "not in the least psychological". This is not a matter of simple "intention", but there are some generalized rules which effect the functions of interpretants when they are not Conclusions; that is, there are generalized rules of interpretance.

6.6.4. The rules of interpretance

In order to understand Peirce's conception of those general rules of interpretance, it is helpful to turn to Peirce's Review of Lady Welby's *What is Meaning* and to his correspondence with William James, for there he is the most clear about the role of interpretants. As Peirce reached the later years of his life, he spent more and more time trying to clarify his thinking on the Semeiotic, and he begins in 1903 to describe the role of the interpretant this way:

> The Sign creates something in the Mind of the Interpreter, which something, in that it has been so created by the sign, has been, in a mediate and *relative* way, also created by an Object of the Sign, although the Object is essentially other than the Sign. .... It is created by the Sign; but not by the Sign qua member of whichever of the Universes it belongs to; but it has

> been created by the Sign in its capacity of bearing the determination of the Object. It is created in a Mind (how far this mind must be real we shall see). All that part of the understanding of the Sign which the Interpreting Mind has needed collateral observation for is outside the Interpretant. I do not mean by "collateral observation" acquaintance with the system of signs. What is so gathered is *not* COLLATERAL. It is on the contrary the prerequisite for getting any idea signified by the sign. .... All that is collateral observation ... is no part of the Interpretant. But to put together the different subjects as the sign represents them as related—that is the main [i.e., force] of the Interpretant-forming. (8.179)

There are two important things to note about Peirce's description here. One, he is clearly closing with a clear relation of interpreter to interpretant, but the interpreter need not be a sign-creator and need not even be a "real mind", at least in the sense of any "particular *intelligence* or *Reason*" (8.121). Two, whatever the force of interpretant-forming is, it is not collateral experience at all, but it is, as I have argued, a kind of "conscission" which joins different universes together, and "to know the Interpretant, which is what the sign itself expresses, may require the highest power of reasoning" (8.181). So with the interpretant clearly established as an agent of sign and not of the Mind, Peirce then redefines three types of interpretants: the Immediate and Dynamical Interpretants, which are parallel to the Immediate and Dynamical Objects, and a third kind of interpretant, the Final Interpretant "because it is that which *would finally* be decided to be the true interpretation if consideration of the matter were carried so far than an ultimate opinion were reached" (8.184). Thus, the Final Interpretant is significance at "the deepest and most lofty" level, and Peirce agrees that Welby's significs is "what I should describe as the study of the relation of signs to their interpretants" (8.184).[69]

However, in a letter to William James, dated March 14, 1909, Peirce tells James that the way to distinguish between the Immediate Object and the Dynamical Object is only by "collateral experience" which the sign will indicate. And then he says, "A similar distinction must be made as to the Interpretant", but he stresses that "the dichotomy [of Immediate and Dynamical] is not enough by any means" (8.314). Peirce then gives a rather homespun example of his

wife asking a question about the weather and analyses it thusly: The Question itself is the sign; its object is "the weather at that time"; its Dynamical Object is an impression "derived from peeping outside"; its interpretant is the quality of the weather; its Dynamical Interpretant is "my answering her question" or "the actual effect it has upon me, the interpreter"; and its Immediate Interpretant is "what the Question expresses, all that it immediately expresses. But the Significance of it, the *Ultimate*, or *Final Interpretant* is her *purpose* in asking it, what effect its answer will have as to her plans for the ensuing day" (8.314). It seems clear here that the Immediate and Final Interpretant are closely related in that both consider the entire semiotic situation, syntax, semantic, or pragmatic: wife with purpose scans, generates and asks question, and husband, with observation and interpretation, scans, generates, and answers question. It is a nice conversational slice of communicative life, but what is the difference in the two holistic, but slightly divergent, viewpoints of the Immediate and Final Interpretants?

Sixteen days later, in a second letter to James, Peirce attempts to give "a *little* fuller explanation" of these complex relations between interpretants. There he writes: "The Dynamical Interpretant is whatever interpretation any mind actually makes of a sign. This Interpretant derives its character for the Dyadic category, the category of Action" (8.315). The problem for Peirce here, as in the problem of assertoric quality of propositions, is the relationship between the dyadic aspects of secondness and the triadic qualities of interpretants as thirds. It is the problem of approximation in the slippage between the Dynamic and Immediate Objects, the problem of the primary and secondary Objects, or the problem of punctuation between the digital system of signs and the analog world of stuff. So after establishing that the Dynamical Interpretant has two "relative" and "contrastive" aspects of action as "the Active and the Passive", Peirce continues then to draw the relation between the Dynamical Interpretant and the Immediate and Final Interpretants by saying,

> In its $\left\{\begin{matrix}\text{Active}\\ \text{Passive}\end{matrix}\right\}$ forms, the Dynamical Interpretant indefinitely approaches the character of the $\left\{\begin{matrix}\text{Final}\\ \text{Immediate}\end{matrix}\right\}$ Interpretant;
> and yet the distinction is absolute. The Final Interpretant does not consist in the way in which any mind does act but in the

> way in which every mind would act. That is, it consists in a truth which might be expressed in a conditional proposition.... The Immediate Interpretant consists in the *Quality* of the Impression that a sign is fit to produce, not to any actual reaction. Thus the Immediate and Final Interpretants seem to me absolutely distinct from the Dynamical Interpretant and from each other. And if there be any fourth kind of Interpretation the same footing of those three, there must be a dreadful rupture of my mental retina, for I can't see it at all. (8.315)

Thus, any parallel or "similar distinction" between the Immediate

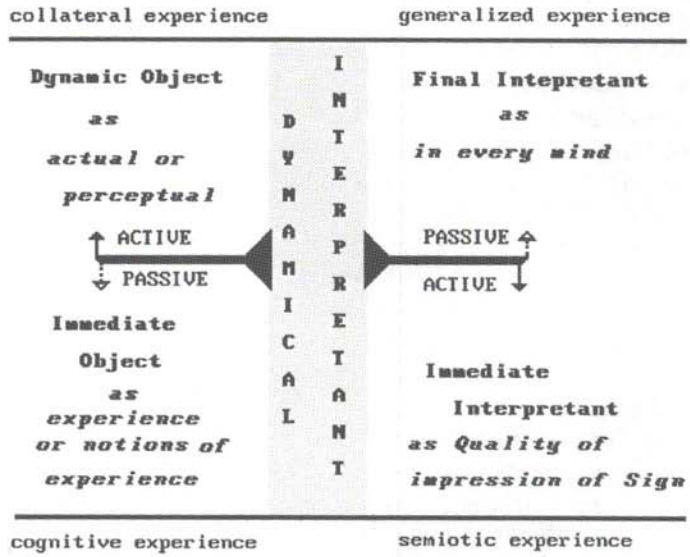

Figure 18. Dynamic interpretant as gatekeeper

and Dynamical Object and the Immediate and Dynamical Interpretant turns out to be a strange one; that is, the parallel is only categorical, with Immediate being a first and Dynamical a second. There, is nevertheless, an absolute distinction between the Immediate Object and the Immediate Interpretant drawn by the Dynamical Interpretant's reactiveness; the Immediate Object focuses on the quality of the collateral experience; the Immediate Interpretant focuses on the quality of the sign, and the Dynamical Interpretant engages the response as a

gatekeeper. In its active and passive roles it apparently torques either toward the object, as collateral experience in its Dynamic guise or as cognitive experience in its Immediate guise. Likewise, the Dynamical Interpretant, also still in its active or passive roles, apparently can torque the interpretant either toward a general experience as "in every mind" or toward the "Quality of the Sign".[70]

Still, what is of interest here is that the quality of the sign is primarily its capacity for interpretant-forming, its ability to put subjects together in relations, which the Dynamical Interpretant can use. But there is still the Final Interpretant which gives this pragmatic exchange "Significance". Thus, the Final Interpretant seems to have three phases. One phase is the purpose of the sign by the users, generated or interpreted. The second phase is "the way in which any mind would act" as a kind of generic response. And the third phase is the "true interpretation if consideration of the matter were carried so far that an ultimate opinion would be reached" (1.184). Note that this last division of the Final interpretant is triadic with a first of intention, or purpose (an aim of feeling in interpretance), with a dyadic second of interpretance response, even if generic, and with an ultimate third as an interpretance establishing a general rule of truth.

Apparently even the Final Interpretant is subject to trichotomizing, and if that is true, such a characteristic will have produced the Peircean pronouncement (quoted above) that any reader will be sure has killed my entire argument; that is, Peirce's hyperbole that there is no "fourth kind of Interpretant". The qualifier Peirce's uses is important, for the lack of a fourth is in reference to "the same footing as these three". And I have been arguing that these three interpretants are a trichotomy of thirds as they are shown in the interpretant Tri-square of Figure 8. They and their variations are necessary because of the need to widen the third trichotomy of sign to be able to apply to "all signs". Clearly Peirce thought there were other interpretants for he named several others, but also the trichotomous division of interpretants is a difficult and arduous task. Interpretants, by their very nature, perform the most difficult role in semiosis; they mediate, they join, they connect, they relate the Absolute firstness of Potentiality with the Absolute secondness of Resistant Fact. Without their interpretance roles, semiosis would not exist as common sense, science, logic, or art.

6.7. Interpretance of the second trichotomy

When Peirce reviews Lady Welby's *What is Meaning*, he distinguishes "two senses of object and three of Interpretant" (8.333), but he also says, "It would be better to carry this division further; but these two division are enough to occupy my remaining years" (3.182). These two divisions, as I have shown above did occupy his remaining years, and although Peirce really never continues the division of interpretants as a second trichotomy, it is still possible to speculate on what those might be. First, Peirce had already created two sets of double objects in his semeiotic: one is the primary and secondary objects, and the other is the Immediate and Dynamic Objects. If these are not the same thing with different Peircean names, perhaps one can discover something of what this last division of interpretants might be.

It is clear that Peirce sees the Dynamic Object and Immediate Object as ultimately separated even if the Dynamic Object determines the Immediate Object of sign (4.536), and it is equally clear that the connection between the Seme and Pheme of Percept and Perceptual Judgment calls for a semeiotic leap in an abductive proposition (4.539). Although these two objects lead primarily to the trichotomy of the logical Interpretant, the second set of objects, the primary and the secondary (2.310-12), are probably more crucial to discovering a second trichotomy of interpretance, for when Peirce discusses them he is discussing how the Dicisign, the Proposition, relates to an Index in order to function as an assertion, which can be judged for validity and truth. This distinction leads him to the odd notion of the Shared Interpretant—an interpretant which joins together, or conscinds, in the propositional form of syntax, a subject and a predicate (2.312).

But Peirce's second characteristic of such an interpretant is even more telling, for the proposition must represent the two parts "as connected ... in such a way that if the Dicisign has *any Object* [my emphasis], it must be an Index of a secondness subsisting between the Real Object represented in one represented part of the Dicisign to be indicated, and a firstness represented in the other represented part of the Dicisign to be Iconized" (2.312). That is, there are three senses of actuality here: a firstness of potentiality in the Icon; a secondness in the actuality of the Index; and a thirdness of habituality in the propositional connection. There are, of course, two ways to read the habituality of the proposition; one can either be metaphysical or logical, as Peirce often is with Habit, or one can simply be syntactical.

The habituality of this interpretant is the habit of replication. The sign relation exists because the sign system allows this particular replica to occur, but if any object, that is, any Real Object in the full sense of secondness, is used, this assertoric relation will hold.

A second possible avenue of understanding the role of paired objects and interpretants is the draft of the Welby letter of December 23, 1908, where Peirce converted his Ten Classes of signs to "The Ten Main Trichotomies of Signs", in which six of the trichotomies are developed in terms of interpretance and three are developed in terms of objects.[71] The first trichotomy is, of course, about signs themselves "in Respect to Their Modes of Presentation". But of the next three trichotomies, two relate to the Dynamical Object, and one relates to the Immediate Object. The second trichotomy is "According to the Mode of Presentation of the Immediate Object"; the third one is "According to the Mode of Being of the Dynamical Object"; and the fourth one is "According to the Relations of the Sign to its Dynamical Object". Then later the second trichotomy is named as Descriptives, Designatives, or Copulants (8.350); the third is described as Abstractives, Concretives, and Collectives (3.365); and the fourth is the "most frequently" used one of Icon, Index, and Symbol (8.368).

Of the six interpretant trichotomies Peirce details, two relate specifically to the Dynamic Interpretant and one relates to the Immediate Interpretant: the fifth[72] trichotomy is "According to the Mode of Presentation of the Immediate Interpretant"; the sixth is "According to the Mode of Being of the Dynamical Interpretant", and the seventh is "According to the Relation of the Sign to the Dynamical Interpretant" (8.344). Later, when he describing these briefly, he identifies the sixth trichotomy as "Sympathetic, or Congruenative; Shocking, or Percussive; [and] Usual" (8.370). But the seventh trichotomy is unusual, for it has a history of movement. Originally its three terms had been descriptive of the fifth trichotomy, but Peirce, "with great hesitation" (8.369), had moved them to the seventh trichotomy. Originally the fifth trichotomy had been Ejaculative, Imperative, and Significative, but they are renamed as "Hypothetic, Categorical, [and] Relative" (8.369), and the seventh trichotomy becomes "Suggestive, Imperative, [and] Indicative" (8.371). The eighth and ninth trichotomies are in relation to the Normal Interpretant as to Purpose and Influence of the Sign. The eighth is "Gratific" and either produces action or self control (8.372); and

the ninth is the argumentative trichotomy of Seme as simple sign, the Pheme as antecedent and consequence, and the Delome as antecedent, consequence, and principle of sequence (8.373). Finally, the tenth trichotomy[73] is in relation to the Dynamic Object and the Normal Interpretant, and it grants respectively Assurances of Instinct in firstness, Experience in secondness, and Form in thirdness (8.374).

These Ten Classes make a brief, complex, and provocative list, but Peirce is concerned here with identifying the different types of sign relations in a systematic way. In fact, this list may very well be a blue print of the processes of signs. But I prefer to use his typology here as a basis for discussing the role of interpretance in a trichotomy of secondness, and the trichotomies I have chosen are those which relate to the problem of the object in sign relations. What I find particularly interesting is the shift in the fifth and seventh trichotomies, which is the reflective, I think, of the problem of "absolute distinction" that Peirce described to James and of the difficulty of Peirce's argument about the Percept as Seme having a Dynamical Interpretant as Pheme (4.537). The mode of presentation of the Immediate Interpretant and the relation of the sign to the Dynamical Interpretant is a very fuzzy area.

However, there is a third avenue for trying to understand Peirce's thinking here, and that is the actual letter sent to Lady Welby on December 23, 1908. There Peirce puts this complex and obviously troubling series of relations as:

> Hence it follows from the Definition of a Sign that the Dynamoid Object determines the Immediate Object,
> Which determines the Sign itself,
> which determines the Destinate Interpretant
> which determines the Effective Interpretant
> which determines the Explicit Interpretant
> the six trichotomies, instead of determining 729 classes of signs, as they would *if they were independent* [my emphasis], only yield 28 classes, and if, as I strongly opine (not to say almost prove) there are four other trichotomies of signs of the same order of importance, instead of making 59049 classes, these will only come to 66.
>
> (Hardwick 1977:84)

Here again, of course, is the ghost of the Sixty-Six Classes, but that is a secondary issue. What is important here is the classes of signs are *not* independent, but are governed by the categorical operations of prescission/ conscission in firstness, Interpretance in thirdness, and dyadicism in secondness. The role given to the Dynamic Object, thus, produces the six trichotomies which in the draft Peirce then names somewhat differently. If I am correct here in my extrapolation from the posted letter back to the draft letter, the Destinate Interpretant becomes the Immediate Interpretant of the fifth trichotomy, the Effective Interpretant becomes the Dynamical Interpretants (Active and Passive) of the sixth and seventh trichotomies, and the Explicit Interpretant becomes the eighth, ninth, and tenth trichotomies dealing with the "Normal Interpretant" (8.344).

I believe my extrapolation is likely since it matches Peirce's senses of genuine and degenerate forms of the categories, there being only a single genuine firstness; two forms, one genuine and one degenerate, of secondness; and three forms, one genuine and two degenerate, of thirdness. Nevertheless, it is the Dynamical Object, or Dynamoid Object, or Dynamic Object, which is the shearing point, probably not only because of the Semeiotic, but also because of the nature of Absolute firstness and Absolute secondness. The role of interpretants, interpretance, and interpreters is, after all, a role of mediation, an in-between-ness which generates the need (biological or epistemological) for the sign system in the first place.

6.7.1. The boundaries of the semeiotic

So let us look at the possibilities for a trichotomy of second interpretance. As the triangular diagram to Lady Welby (8.376) suggests, there are four boundaries to the Semeiotic. One is the limits of firstness and potentiality, and another is the limits of secondness and actuality; these are clearly the two framing Absolutes which Peirce has consistently mentioned. The third boundary is, of course, that of thirdness, the limitations of the sign as either endless series or infinite regression. But what is the fourth? As I have argued, there is an internal boundary represented by the sixth trichotomy, either as sign Class in the Rhematic Indexical legisign, or as interpretance "according to the Mode of Being of the Dynamical Interpretant". This boundary is expressed by the processes of embodiment and

replication which are interpretance functions pushing the sign to actual occurrence not simple potential use. As a trichotomy it falls between the two confused, or confusing, trichotomies of the Mode of Presentation and the Relation of the sign to the Dynamic Interpretant.

Peirce, as a logician, is concerned with the limitations of the sign, and his development of interpretance as an Argumentative function demonstrates that logician's concern, but as a semiotician, backwoodsman or not, his concern for the internal boundary is shown just as much; only it is not as clear, I suspect, because Peirce tries to hold the oxymoronic position of Scholastic Realist. He never will settle for nominalistic emptiness, and he is too good a scientist to accept the mechanistic reductionism of positivistic thinking. So he has to return again and again to the ambivalent cusp of the Dynamic Object or the Dynamic Interpretant. If the Semeiotic is to hold against nominalism, if semeiotic analysis is to help in understanding how signs work, then there has to be a trichotomy of second interpretants.

So let me return to my adaptation of the Tri-Square, and include all of the various terms describing signs relations. The secondness types in the Tri-Square, are Possible Interpretants, Actual Interpretants, and Habitual Interpretants. Obviously, there have to be Possible Interpretants, or semiosis would be static, and surely life, verbal or not, is ample proof that semiosis is not static. Secondly, the Habitual Interpretant is close to Peirce's term of the Normal Interpretant, or as he says to James of such a Final Interpretant, it represents "the way in which every mind would act" (8.315). But what of a secondness of the sign in relation to its object? Why would the Dynamical Interpretant not do as well here? If my arguments above are telling at all, it is obvious that the Dynamical Interpretant is a part of the trichotomous calculation of the thirdness of interpretance, and what is at issues here is the secondness of interpretants.

Thus, I would argue that one has to have actual interpretants; that is, physical objects or events, which are the embodiments of the first trichotomy of interpretance and replicas third trichotomy of interpretance. Peirce recognized that without the anchor of secondness, the Semeiotic would collapse into Nominalism, but without the growth of interpretance, the Semeiotic could never escape the positivistic abstractions of a dyadic secondness. Also, without the potentiation of firstness, the world is still born lost in the wombs of infinity, and there must be a principle of growth of principles (8.585) to shape the entiation of firstness in the "womb of indeterminacy" (1.412); so

potentiality 11 actuality 12 generality 13

	FIRSTNESS	SECONDNESS	THIRDNESSS
R(epresentamen) What it is in itself 21	Qualisign Seme as Percept Emotional Obj and Interp't	Sinsign Primary Obj Possible Obj and Interp't	Legisign Immediate Obj Immediate Obj and Interp't
O(bject) What it is in relation to its Object 22	Icon Primary Secundal Obj Energetic Obj and Interp't	Index Secondary Obj Actual Obj and Interp't	Symbol Dynamoid Obj Dynamic Obj and Interp't
I(nterpretant) What it is in thought 23	Rheme Perceptual Judgment Logical Obj and Interp't	Dicent Sign Pheme as Proposition Habitual Obj and Interp't	Argument Conclusion Final Obj and Interp't

Figure 19. A Tri-square filled

interpretance may the full thrust of a semiotic entelechy, a principle of organization and system.

6.8. Interpretance and firstness

Peirce says little about the interpretance role of firstness, for most of his discussion of interpretants is naturally concerned with the regulations of law as in logic and mathematics, but he does approach a consideration of rules of interpretance for firstness in two distinct ways. One, as he suggests to James, the Immediate Interpretant can, when torqued by Dynamical Interpretant, be sensitive to a whole range of feelings, qualities, passions, agitations, etc. But secondly, when he discusses the role of the Normative Sciences of Esthetics, Ethics, and Logic in the Lectures on Pragmaticism, he is specifically concerned with the normative functions of firstness an that suggest the role of interpretance. Of course, Peirce's notion on firstness would require a full length study, so let it suffice here to stress that Peirce was as honest in his dealings with firstness as he was with secondness and thirdness. The Normative Sciences, in dealing as they do with ends, will be pre-logical to the extent that they operate with "incomplex

thoughts" (5.294); that is, until the complexities of sign relations begin to operate there is very little that a logic can do. Still, Peirce is insistent that there is a logic to both practics and esthetics (2.200, 5.132, and 5.551). That is, there are rules of governance which can be explored and discussed precisely even if based on prescission. Practics seemed no great problem to Peirce since he believed that the logic of self-control was sufficient frame to discuss the veracity of moral aims, but esthetics proved more complex probably because it was a first.

Semeiotically, there is the "special variety of esthetic goodness that may belong to representation, namely expressiveness" (5.137), but the unsigned aspects of Beauty are less clear. Peirce does much to defuse the mistaken notion of esthetics as the theory of Beauty by arguing that Beauty is not mere reaction of a dualistic ego and a non-ego. Rather it is embodied in the "beautiful". As he puts it, "When the sensation beautiful is determined by previous cognitions, it always arises as a predicate; that is, we think that something is beautiful" (5.291). Thus, he tries to remove the sense of "emphatic dualism" of the Normative aspects of Esthetics by turning to the Greek term *kalos*;

> Using *kalos*, the question of esthetics is. What is the one quality [of Beauty] that is, in its immediate presence, *kalos*? Upon this question ethics must depend, just as logic must depend upon ethics. Esthetics, therefore, ... appears to be possibly the first indispensable propeduetic to logic, and the logic of aesthetic to be a distinct part of the science of logic that ought not to be omitted. (2.199)

This is not, for Peirce, a simple recasting of the term "Beauty" in a new kind of reactional presence, rather as Peirce will put it later, this presence is a part of the semiotic casting of the signs used. That is, "an object to be esthetically good, must have a multitude of parts so related to one another as to impart a positive, simple, immediate quality of their totality" (5.132) however they are perceived. There will be "no such thing as positive aesthetic badness. .... [Rather] All there will be will be various aesthetic qualities; that is, simple qualities of totalities not capable of full embodiment in the parts.... My notion would be that there are innumerable varieties of aesthetic quality, but no purely aesthetic grade of excellence" (5.132).

As with all the qualia, they have an infinite variety of variance and

vividness, and what it necessary is that some conscissive principle operates to begin to bring their "multitude of parts" together in a "relation" so as to care the "positive, simple, immediate quality" of the presence of *kalos*. That is, there is a principle of interpretance which is as much Beauty as it is Truth and Good. Such a notion should certainly remind one of Keats's conclusion in an "Ode on a Grecian Urn: "Beauty is Truth, Truth Beauty/That is all ye know on earth/And all ye need to know." But Peirce is no romantic here. The relational order in Beauty is the semiotic order of interpretance, not some given in the objects themselves, for what Peirce's Semeiotic established is that all our constructs are signs and that we have a responsibility in their use and creation, and the otherworldliness of Keats, although perhaps beautiful, is not the path of Scholastic Realism. Also, I do not think Peirce is playing at some game of Beauty as a unrevealed Platonic Order, which is only seen in Shadow. There is no prioritizing here of Metaphysics as the third Normative Science; this is no myth of the Cave in which artists are more blind than philosophers. There may be an ordering principle in the semeiotic which is articulated in precision by Logic, but by Phenomenology, the first of the Normative Sciences, the only way to obtain the aesthetic order is by prescission and the eventual growth of the entire semiosic process. The Order of Logic and Metaphysics is the domain of thirdness and reason. The Order of the Other is the domain of secondness, and even though esthetics is a normative science is by definition concerned with the secondness of names, when Peirce pushes the principles of *kalos*, he meets the margins of firstness, and if there is a principle of Beauty, it will surely be a principle of Play and Musement.

6.9. The interpretance of interpretance

Peirce continually sought the "principle of growth of principle" (6.585), and that thrust with Pragmaticism often has been interpreted as James did, as a kind of simplistic of intent. It is all too easy when examining aim or purpose to settle for the psychological or social black box, and those who read Peirce as a simple minded American of the Nineteenth Century lacking the long-term historical roots of a sophisticated European, undoubtedly are reading Peirce with their own set of glasses. Peirce is no sophist playing out the apocalyptic

game of relativity; his investigation of the semiotic and logic of signs is surely not an unthinking practicality playing some intense game of agnostic Cartesianism. There is a standard of secondness which holds us to itself, embracing us perhaps like a lover, perhaps like Death.

But the Community of Inquirers can use the role of interpretance to filter through the signs and judge by discussion what the coleration, if any with the approximate reality we keep thinking of as the Reality. Peirce is a realist, but undoubtedly one of "a peculiar kind", for although Peirce will not accept nominalism as a kind answer to the problems of realism, neither will he accept realism as a kind of answer to the problems of the sign. Peirce does not run from the problems of the sign to argue either for a positivistic transcendental Being, nor does he opt for a linguistically bound sense of purposelessness. His investigation repeatedly shows him to be neither a cynic who opts for a semiotic *gnosis* (although the temptation must have been great) nor a romantic who keeps placing his key terms outside the realm of Experience. Peirce is too much the scientist, I use the term in his sense of it, to settle for overly soft solutions to the problems he detects. No, he stands as a Scholastic Realist, oxymoronic and paradoxical as it may be, for it only by understanding the principle of interpretance, by having some scientific and rigorous sense of the principle of the growth of principles, that one can optimize the potential in the sign. I suspect that is why Peirce continually refers to humankind as a sign, to the Universe as a sign, and to God as a sign. There is some maturation process operating even if we understand it only darkly, as through a Pauline mirror. The principle of growth of principles is the substance of Evolutionary Love, and Tychasm and Anancasm provide The Way as much as Agapasm (5.303). And Peirce would not even run from an implicit mysticism in his semeiotic, for as he says, "Therefore, if you ask me what part Qualities can play in the economy of the universe. I shall reply that the universe is a vast representamen, a great symbol of God's purpose, working out its conclusions in living realities" (5.119).

Of course, most moderns have some difficulty with Peirce's religious and theological comments. I do not know if such is caused by our unbelief or by Peirce's gamey belief in Belief, but it is obvious that Peirce often plays with religious assertions as much as he does psychological or positivistic ones. In one sense, all three of the assertoric stances are black box strategies that seek to preclude the growth of principles by using a Transcendental Being (of some sort)

to say here we go and no further, be it a dogmaticism, a psychological finality, or a scientific truth. It may even be that Peirce tried to find his own Transcendental Being in Logic, but despite the highest priorities given to diagrammatical thinking, mathematical reasoning, and the regularities of Logic, Peirce never accepts them as the final level. He does poke fun at the dogmatic as much as he pokes fun at the idealist, but he also pokes fun at the positivist and the realist who will not admit the tensions which exist in the semeiotic. It is a tough game that Peirce plays, but it is a productive game, for it is given over to the principle of interpretance, the principle of growth of principles.

Appendix: the vectors of sign flows

As I pointed out in "Triadomany enhanced", Peirce used three different terms for the trichotomy of signs in the letters (8.347) to Lady Welby: Potisigns, Actisigns, and Famisigns. Those new terms are different from Peirce's more usual terminology, but they reflect the same categorical pattern, which Peirce classifies as "a clear apprehension". And with them, Peirce insists on developing ten classes of signs from the nine types of signs by tracing relationships in his ten classes—relationships that deal with the fundamental problems of the interdependence of the categories; and so he ends up discussing ten trichotomies of signs. I will be tracing only Nine Trichotomies in this appendix, but I will operate from the viewpoint that Potisigns are essentially *potential* signs which are the nine *types* of signs, that Actisigns are those actual signs which are the ten classes of signs derived from tracing the horizontal vectors of the nine signs on the tri-square, and that "Famisigns" are the general rule patterns of both the types and classes of signs traced by vertical vectors in my cubed tri-square.

Of course, it may seem that my vectors from the cubed tri-square simply add to perfusion of terms and the confusion that exist in the tracing of correlate relations, but my thinking is that the potisigns are a firstness of sign production, that the actisigns are a secondness of actual types produced, and that the vectors, as famisigns, are a thirdness of the general rules which produce them. Thus and perhaps paradoxically, the pure potisigns are, for Peirce, the Qualisign, Icon, Index, Rheme, and Proposition, which, because of either their firstness or secondness, find their embodiment only elsewhere on the tri-square. The actisigns, which are potisigns finding actual expression in actisigns, are the Sinsign, Legisign, Symbol, and Argument. So I would argue that the famisign vectors, then, are the processes by which the potisigns become actisigns, and I will call these processes, as overall thirds, the permutations of the cubed tri-square. Their movement from absolute first to Mediating Interpretant and then to absolute second will be known as the *Vector* of a particular sign. And in general, all vectors together will constitute the pattern of sign production characterizing a famisign.

As I display the vectors, I will also list with each vector Peirce's own Roman numerals, used in the "Division of Signs", and my own somewhat different ranking of the ten classes as Arabic numerals in Chapter Five. Peirce's sequence number will be shown in parenthesis

next to the degrees of degeneracy, and my own sequence numbers will be shown to the left of the degrees of degeneracy without parentheses. I will also use symbols to distinguish the connections between the tiers of the cubed tri-square. Each tier will be identified as *Rt* for the Representamen tier, as *It* for the Interpretant tier, and as *Ot* for the Object tier, and each sign on a tier will be identified by a number for its category as "1", "2", or "3".

The symbol used for sign flow from first tier to second tier will be a arrow like this: "=->". And the symbol used for sign flow from the second tier to the third will be a arrow like this: "==>". Each possible connection from the first tier to the second tier will be traced and then related to the third tier. Such vector tracing should give a fairly precise picture of the possibilities for signs in the Ten Trichotomies, without trying to create a new list of names. Also, for the ease of typing I will not use neither type emphasis nor subscripts in the tables themselves, the context should make their meaning obvious.

1.0. Vectors of the first trichotomy: Signs in relation to themselves

1.1. The qualisign as vector

In the cubed tri-square the vectors for the Qualisign can be either horizontal vectors as Peirce's tracing or it can be vertical through the cube. When traced vertically, Peirce's *Qualisign* is *Se* on the first tier, and one can follow to the its vectors to four different interpretants (I*a*, I*p*, I*ng*, or I*e*) on the second tier. From those interpretants, one can then follow the vectors to nine possible objects particularly if one uses the Actual Interpretant. For example, from the second tier, I*a*, Peirce's Actual Interpretant, will give vectors to nine objects, three of them being Full Signs ending with the Logical Object, the Habitual Object, and the Final Object. The Energetic Interpretant (I*ng*) and the Possible Interpretant (I*p*) will give vectors to six possible objects, and the Emotional Interpretant (I*e*) will give four vectors to possible objects. But only the Energetic Interpretant will lead to two Full Signs ending with the Logical and Habitual Objects.

Table 9. Qualisign vectors

11.12 Qualisign Vectors	My Rank	Degrees / P's Rank
Rt1Se =->It2Ia ==> Ot1Oe	8	Dgnr 2o (II)
It2Ia ==> Ot1Op	8	Dgnr 2° (II)
It2Ia ==> Ot1Op	8	Dgnr 2° (II)
It2Ia ==> Ot2Ong	7	Dgnr 2° (III)
It2Ia ==> Ot2Oa	7	Dgnr 2° (III)
It2Ia ==> Ot2Od	7	Dgnr 2° (III)
It2Ia ==> Ot3Ol		Full Sign
It2Ia ==> Ot3Oh		Full Sign
It2Ia ==> Ot3Of		Full Sign

From the second tier, I*ng* and I*p* will give six possible connections with various types of objects, such as:

Rt1Se =->It2Ing ==> Ot1oe	8	Dgnr 2° (II)
It2Ing ==> Ot1Op	8	Dgnr 2° (II)
It2Ing ==> Ot2Ong	7	Dgnr 2° (III)
It2Ing ==> Ot2Oa	7	Dgnr 2° (III)
It2Ing ==> Ot3Ol		Full Sign
It2Ing ==> Ot3Oh		Full Sign
Rt1Se =->It1Ip ==> Ot1oe	9	Dgnr 3o (I)
It1Ip ==> Ot1Op	9	Dgnr 3° (I)
It1Ip ==> Ot2Ong	8	Dgnr 2° (II)
It1Ip ==> Ot2Oa	8	Dgnr 2° (II)
It1Ip ==> Ot2Oi	9	Dgnr 3° (I)
It1Ip ==> Ot2Od	9	Dgnr 3° (I)

And from the second tier, I*e* will give four possible connections to various types of objects, such as:

RtlSe =->Itlle ==> Otloe	9	Dgnr 3°	(I)
Itlle ==> OtlOp	9	Dgnr 3°	(I)
Itlle ==> Ot2Ong	8	Dgnr 2°	(II)
Itlle ==> Ot2Oa	8	Dgnr 2°	(II)

for a Total of Signs: 25

Thus, the Qualisign can lead to twenty-five kinds of signs, five of which are full signs; fourteen of which are degenerate to two degrees and six of which are degenerate to three degrees.

This is obviously a rather *divided* pattern, but since the *Qualisign* is concerned particularly with itself, in itself, and with potentiality and emotion, it is likely to be a ambivalent pattern with lots of potential, but lots of misplay as well. Except for the five full signs, these are not very binding vectors, and as should be expected, the emphasis here is on potentiality in signs, but it is worthwhile to note that second degree degeneracies are more important than third degree, for the impact of signing has given the potentiality a "local habitation and a name". The two vectors leading to the Logical Object do reflect the iconic dimension which Peirce identified with the Qualisign, and the one vector leading to the Final Object does reflect the copulative aspects of the Qualisign. Also, the two vectors leading to the Habitual Object seems to suggest something an indexical quality, that Peirce identifies as the designative function.

What is puzzling is the number of degenerate signs. Obviously they occur because of the physical placing of firstness relations and the corner position of the Qualisign; still the vectors which are degenerate do cluster toward the potential side of the trichotomy while continuing to reflect patterns of both similarity and designation. At least five of the signs degenerate in two degrees end up at the level of second Objects (Energetic, Actual, or Dynamic) suggesting the iconic and designative qualities, even if with a lesser regularity. One of the more interesting patterns is that the qualisign connected with the Emotional Interpretant will produce signs degenerate to both the two and three degrees stressing the emotional potentiality of the qualisign and its ability to be very irregular. What is clearly demonstrated is that the qualisign is, as Peirce argued, a tone, a mark, a somewhat subjective division of the continuum into the regularity of the sign.

On the other hand, using Peirce's ten classes, one sees that the five

full signs turn out to be more complex than just Qualisigns, for two will be Rhematic Qualisigns with iconic and indexical tracks, two will be Dicent Qualisigns again with iconic and indexical tracks, and one will be a Rhematic Indexical Qualisign. Although these full signs will have to find embodiment in sinsigns, their indexical quality will make that very easy to achieve. In addition, there are nine Iconic Sinsigns, five Rhematic Indexical Sinsigns, and six "pure" Qualisigns. Obviously the pattern here reflects the need for the Qualisign to find embodiment of its potentiality in a sinsign, for the qualia of qualisigns is what is stressed; so one sees the Qualisign reflecting both the potentiality of firstness, the iconic and indexical qualities of secondness, and even the thirdness of an Argument. The lowly Qualisign turns out to be a relatively power sign.

1.2. The sinsign as vector

When the vectors are traced vertically in the cubed tri-square, Peirce's *Sinsign* is S*p* on the first tier, and one can follow its vectors to six interpretants on the second tier—I*e*, I*p*, I*i*, I*ng*, I*a*, or I*d*. For example, I*a* (on the second Tier as Peirce's Actual Interpretant) will give all nine possible connections with various types of objects; it will yield three full signs, two of which are the Iconic Sinsign and the Indexical Sinsign, but one of which is an Argumentative Indexical Sinsign. This last I assume but would be something like legal or scientific evidence.

Table 10. Sinsign vectors

11.22 Sinsign Vectors	My Rank	Degrees/ P's Rank	
Rt1Sp =->It2Ia ==> Ot3Ol		Full Sign	
It2Ia ==> Ot3Oh		Full Sign	
It2Ia ==> Ot3Of		Full Sign	
It2Ia ==> Ot2Ong	7	Dgnr 2°	(III)
It2Ia ==> Ot2Oa	7	Dgnr 2°	(III)
It2Ia ==> Ot2Od	7	Dgnr 2°	(III)
It2Ia ==> Ot1Oe	8	Dgnr 3°	(II)
It2Ia ==> Ot1Op	8	Dgnr 3°	(II)
It2Ia ==> Ot1Oi	8	Dgnr 3°	(II)

Peirce's Energetic and Dynamic Interpretants will give six possible connections to objects, and two of the signs for the Energetic Interpretant will be full signs reflecting an Iconic Sinsign and an habitual iconic Sinsign, this last being something like tracking sign and representing a kind of regularity. The two signs for the Dynamic Interpretant will be Dicent Symbol Legisign and an Argument Symbolic Legisign suggesting something like either Jung's archetypal approach or operations of rhetorical symbolism. The remaining sign vectors, however, will be degenerate in two or three degrees.

Rt1Sp =->It2Ing ==> Ot3Ol		Full Sign	
It2Ing ==> Ot3Oh		Full Sign	
It2Ing ==> Ot2Ong	8	Dgnr 2°	(III)
It2Ing ==> Ot2Oa	8	Dgnr 2°	(III)
It2Ing ==> Ot1Oe	7	Dgnr 2°	(II)
It2Ing ==> Ot1Op	7	Dgnr 2°	(II)
Rt1Sp =->It2Id ==> Ot3Of		Full Sign	
It2Id ==> Ot3Oh		Full Sign	
It2Id ==> Ot2Od	8	Dgnr 2°	(III)
It2Id ==> Ot2Oa	8	Dgnr 2°	(III)
It2Id ==> Ot1Oe	7	Dgnr 2°	(II)
It2Id ==> Ot1Op	7	Dgnr 2°	(II)
Rt1Sp =->It1Ie ==> Ot2Ong	7	Dgnr 2°	(II)
It1Ie ==> Ot2Oa	7	Dgnr 2°	(II)
It1Ie ==> Ot1Oe	9	Dgnr 3°	(I)
It1Ie ==> Ot1Op	9	Dgnr 3°	(I)

Peirce's Possible Interpretant will yield six objects on the third tier, and Peirce's Immediate Interpretant will yield four objects on the third tier; thus there are seven Full signs and twenty-eight degenerate signs, of which seven are degenerate to three degrees and fourteen are degenerate to two degrees.

Rt1Sp =->It1Ip ==> Ot1Oe	9	Dgnr 3°	(I)
It1Ip ==> Ot1Op	9	Dgnr 3°	(I)
It1Ip ==> Ot1Oi	9	Dgnr 3°	(I)
It1Ip ==> Ot2Ong	8	Dgnr 2°	(II)
It1Ip ==> Ot2Oa	8	Dgnr 2°	(II)
It1Ip ==> Ot2Od	8	Dgnr 2°	(II)
Rt1Sp =->It1Ii ==> Ot1Op	9	Dgnr 3°	(I)
It1Ii ==> Ot1Oi	9	Dgnr 3°	(I)
It1Ii ==> Ot2Od	8	Dgnr 2°	(II)
It1Ii ==> Ot2Oa	8	Dgnr 2°	(II)

For a total of Signs: 35

This is a fairly complex pattern of degeneracy and full signs, but the degeneracy in this series of vectors is probably because the *Sinsign* is the most rudimentary of actually occurring signs, and they, as a class, may suffer from the greatest degree of error; thus they will call for repetition and redundancy to compensate for that degeneracy. Moreover, the Sinsign is likely to be the vector that highly marginal signs will take, as in dreams for example. The occurrence of two vectors through the symbol also suggest the typical informational aesthetic quality that one normally associates with artistic use of signs. Still, it is equally important that these vectors produce seven full signs. This is as much as the more logical Proposition vectors, which are Full signs at 0°, will produce. And even more startling is the fact that the Sinsign Vectors and the Proposition vectors both produce more Full signs than the causative Index vectors, the similitudenous Icon vectors, the conventional Symbolic vectors, the categorical Rhematic vectors, or the typological Legisign vectors. Even the Argument (Law) vectors can produce only five Full at zero degrees. Thus, the Sinsign, despite its oddity is one of the more powerful sign vectors of the process.

Using Peirce's ten classes, the seven full signs fall into three groups: three have indexical tracks, two have iconic tracks, two have symbolic tracks; also, three function as propositions, two as rhemes, two as arguments. All, of course, are Sinsigns, but they do clearly reflect the double nature of iconic and indexical representation. This double nature is also characteristic of the degenerate signs, for that group falls into a pattern of seven Rhematic Indexical Sinsigns, fourteen

Iconic Sinsigns, and seven Qualisigns; so Peirce's sense of embodiment and replica prove very fruitful for the Sinsign. Such potentially makes the Sin-sign a powerful vector for both discovery and error, and the presence of seven quali-signs to seven full signs demonstrates the full range of the Sinsign to be both embodiment and replica.

1.3. The legisign as vector

In the cubed tri-square Peirce's *Legisign* Si is on the first tier, and one can follow its vectors to four interpretants (I*a*, I*p*, I*d*, or I*ng*) the second tier. From the second tier, I*a*, Peirce's Actual Interpretant, will give nine possible vectors, and the Immediate Interpretant will give four possible vectors with nine types of objects, and the Possible and Dynamic Interpretants will give six possible vectors.

Table 11. Legisign vectors

11.23 Legisign Vectors	My Rank	Degrees/	P's Rank
Rt1Si =-> It2Ia ==> Ot1Oe	8	Dgnr 2°	(II)
It2Ia ==> Ot1Op	8	Dgnr 2°	(II)
It2Ia ==> Ot1Oi	8	Dgnr 2°	(II)
It2Ia ==> Ot2Ong	7	Dgnr 2°	(III
It2Ia ==> Ot2Oa	7	Dgnr 2°	(III)
It2Ia ==> Ot2Od	7	Dgnr 2°	(III)
It2Ia ==> Ot3Ol		Full Sign	
It2Ia ==> Ot3Oh		Full Sign	
It2Ia ==> Ot3Of		Full Sign	
Rt1Si =-> It2Id ==> Ot1Oi	8	Dgnr 2°	(II)
It2Id ==> Ot1Op	8	Dgnr 2°	(II)
It2Id ==> Ot2Od	7	Dgnr 2°	(III)
It2Id ==> Ot2Oa	7	Dgnr 2°	(III)
It2Id ==> Ot3Oh		Full Sign	
It2Id ==> Ot3Of		Full Sign	

Rt1Si =->	It1Ii ==> Ot1Oi	9	Dgnr 3°	(I)
	It1Ii ==> Ot1Op	9	Dgnr 3°	(I)
	It1Ii ==> Ot2Od	8	Dgnr 3°	(II)
	It1Ii ==> Ot2Oa	8	Dgnr 3°	(II)
Rt1Si =->	It1Ip ==> Ot1Oi	9	Dgnr 3°	(I)
	It1Ip ==> Ot1Op	9	Dgnr 3°	(I)
	It1Ip ==> Ot1Oe	9	Dgnr 3°	(I)
	It1Ip ==> Ot2Ong	8	Dgnr 3°	(II)
	It1Ip ==> Ot2Oa	8	Dgnr 3°	(II)
	It1Ip ==> Ot2Od	8	Dgnr 3°	(II)

for a total of Signs: 25

Thus, the *Legisign* can lead to twenty-five other kinds of signs, five of which are full signs, with five signs of degenerate to three degrees and fifteen signs of degenerate to two degrees. This clustering of variations is due, I suspect, to the fact that the Legisign is, as Peirce put it, a "type" and a general category, which finds its embodiment in the *Sinsign,* for obviously the binding law of the Legisign is subject to proofs. The occurrence of a replica may be determined as related to a Legisign only by induction, and as Peirce says of the parallel symbol, "the true symbol has an interpretant so long as it is true. And as it is identical with its interpretant, it always exists. Thus, the necessary and true symbol is immortal." (7.593) There are "two series of cognition—the real and the unreal—[which] consist of those which, at a time sufficiently future, the community [of Inquirers] will always continue to re-affirm; and those which, under the same conditions, will ever after be denied" (5.312). I suspect the full signs here are more likely to be "the necessary and true" signs, and the signs of two degrees degeneracy will likely be more marginal. I suspect the signs of three degrees degeneracy are likely to be those which "will ever after be denied" by the community. The question of these degenerate signs may be moot because the real issue is that some of the Legisigns are very dysfunctional as an "improper" word, a broken type face, or a channel disruption might be.

Using Peirce's ten classes of signs, three of the Legisign's full signs are produced from an Actual Interpretant; one of them is clearly the Dicent Indexical Legisign, and another could be either the Rhematic

Iconic or Rhematic Indexical Legisign, depending on whether the similarity or contiguity is emphasized. But a third is not one of Peirce's Legisigns. It would essentially be an Argument (Indexical Legisign), and if one accepts such a class of signs, then the indexical quality will suggest something of the nature of legal or scientific evidence, argument which requires a set of more or less formal rules of evidence. The other two full signs are produced by the Dynamic Interpretant and suggest more typical Legisign relations. One would clearly be a Argument (Symbol Legisign), and the other could be either the Dicent Symbol (Legisign) or the Rhematic Symbol (Legisign), depending on whether a Class name or a Subject of a predicate were being emphasized. Of the degenerate signs, five would be Qualisigns, ten would be Rhematic Indexical Sinsigns, and ten would be Iconic Sinsigns. Thus, the Legisign is ideally suited for the processes of replica occurrence or embodiment; it is equally capable of iconic or indexical relations, but participates to some extent in the potentiality of the Qualisign for the possibilities of discovery and/or evidence.

2.0. Vectors of the second trichotomy: Signs in relation to objects

2.1. The icon as vector

Peirce's *Icon* on the first tier is S*ng*; and one can follow its vectors to any of six interpretants on the second tier—the I*ng*, I*e*, I*a*, I*l*, I*p*, or I*h*. For example, I*ng* from the second tier, Peirce's Energetic Interpretant, as well as I*h* or I*p*, will give six possible vectors, such as:

Table 12. Icon vectors

12.21 Icon Vectors	My Rank	Degrees/ P's Rank
Rt2Sng =->It2Ing ==> Ot1Oe	7	Dgnr 2° (III)
It2Ing ==> Ot1Op	7	Dgnr 2° (III)
It2Ing ==> Ot2Ong	6	Dgnr 2° (IV)
It2Ing ==> Ot2Oa	6	Dgnr 2° (IV)
It2Ing ==> Ot3Ol	5	Dgnr 1° (VII)
It2Ing ==> Ot3Oh	5	Dgnr 1° (VII)

Rt2Sng =->It1Ip ==> Ot1Oe	8	Dgnr 2°	(II)
It1Ip ==> Ot1Op	8	Dgnr 2_o	(II)
It1Ip ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ip ==> Ot2Ong	7	Dgnr 2°	(III)
It1Ip ==> Ot2Oa	7	Dgnr 2°	(III)
It1Ip ==> Ot2Od	7	Dgnr 2°	(III)
Rt2Sng =->It3Ih ==> Ot2ong	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Oa	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Od	5	Dgnr 1°	(VII)
It3Ih ==> Ot3Ol	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Oh	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Of	4	Dgnr 1°	(IX)

But I*a* will give nine possible vectors, such as:

Rt2Sng =->It2Ia ==> Ot1oe	7	Dgnr 2°	(III)
It2Ia ==> Ot1Op	7	Dgnr 2°	(III)
It2Ia ==> Ot1Oi	7	Dgnr 2°	(III)
It2Ia ==> Ot2Ong	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Oa	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Od	6	Dgnr 2°	(IV)
It2Ia ==> Ot3Ol	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Oh	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Of	5	Dgnr 1°	(VII)

And I*e* or I*l* will give four vector connections to nine types of objects:

Rt2Sng =->It3Il ==> Ot2ong	5	Dgnr 1°	(VII)
It3Il ==> Ot2Oa	5	Dgnr 1°	(VII)
It3Il ==> Ot3Ol	4	Dgnr 1°	(IX)
It3Il ==> Ot3Oh	4	Dgnr 1°	(IX)
It1Ie ==> Ot2Oa	7	Dgnr 2°	(III)

Rt2Sng =->It1Ie ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ie ==> Ot1Op	8	Dgnr 2°	(II)
It1Ie ==> Ot2Od	7	Dgnr 2°	(III)

for a total of Signs: 35

Thus, the Icon produces no full signs, and its degeneracy is between one and two degrees, fifteen being degree one, and twenty being degree two. However, this degeneracy, when combined with the potentiality of its firstness, makes the Icon a powerful sign pattern even though it does not have access to as many sign vectors as the Index. This is due, I suspect, to Peirce's stipulation that the link in iconic signs is similarity, a limitation which does not affect the Index, which is governed only by contiguity and existence and which allows for considerably more accidents. However on using Peirce's Ten Classes, one finds there are ten Dicent Indexical Legisigns, ten Rhematic Indexical Sinsigns, five Dicent (Indexical) Sinsigns, five Dicent Symbol (Legisigns), and five Iconic Sinsigns, and here one must note an odd occurrence: there are only a minimal number of specifically iconic structures in the Icon.

Is this an error caused by the cubed tri-square, or is it because of the redundancy of thirds? Since Peirce makes it clear than every index includes some "icon of a peculiar kind", (2.247) and the trichotomizing of the trichotomies will increase the impact of regularity and thirdness, I think it is due to the redundancy rather than model error. Also, the presence of a dominance of Dicent relations suggests a propositional impact for Icons which is not often discussed, perhaps because the informational area of the Icon can be so wide. Yet the similarities and likenesses of things are important parts of human discovery if those similarities and likeness are validated by experience; they are the basis of classification, proper names, rhemes, etc. If Peirce's concept of verb action for the Icon is correct, then the predicate role of the proposition is crucial. So obviously, the more the experience of likeness is "subjective", the more it will be in the mode of a qualisign, but the more it is evidential, the more it will participate in the indexical mode.

2.2. The index as vector

The *Index* itself, suggesting some of the power and limitations of causative thinking, can lead to eighty-one other kinds of signs all which will be degenerate in between degree one and degree two. Such variance in the Index can certainly explain post hoc thinking and other informal fallacies, but I think it is most illustrative of the problems of induction in reaching certain conclusions. Thus, if one enters with S*a*, Peirce's Index, one can then follow to any of the eight other interpretants on the second tier. For example, from the second tier, I*a*, or Peirce's Actual Interpretant, will give nine possible connections with various types of objects:

Table 13. Index vectors

12.22 Index Vectors	My Rank	Degrees/	P's Rank
Rt2Sa =->It2Ia ==> Ot1Oe	7	Dgnr 2°	(III)
It2Ia ==> Ot1Op	7	Dgnr 2°	(III)
It2Ia ==> Ot1Oi	7	Dgnr 2°	(III)
It2Ia ==> Ot2Ong	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Oa	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Od	6	Dgnr 2°	(IV)
It2Ia ==> Ot3Ol	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Oh	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Of	5	Dgnr 1°	(VII)

The Index can just as easily connect with any of the other eight interpretants although these vectors will produce fewer sign relations for each interpretant than for the I*a*, Actual Interpretant.

Rt2Sa =->It1Ie ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ie ==> Ot1Op	8	Dgnr 2°	(II)
It1Ie ==> Ot2Od	7	Dgnr 2°	(III)
It1Ie ==> Ot2Oa	7	Dgnr 2°	(III)

Rt2Sa =->It1Ip ==> Ot1oe	8	Dgnr 2°	(II)
It1Ip ==> Ot1Op	8	Dgnr 2°	(II)
It1Ip ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ip ==> Ot2Ong	7	Dgnr 2°	(III)
It1Ip ==> Ot2Oa	7	Dgnr 2°	(III)
It1Ip ==> Ot2Od	7	Dgnr 2°	(III)
Rt2Sa =->It1Ii ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ii ==> Ot1Op	8	Dgnr 2°	(II)
It1Ii ==> Ot2Od	7	Dgnr 2°	(III)
It1Ii ==> Ot2Oa	7	Dgnr 2°	(III)
Rt2Sa =->It2Ing ==> Ot1Oe	7	Dgnr 2°	(III)
It2Ing ==> Ot1Op	7	Dgnr 2°	(III)
It2Ing ==> Ot2Ong	8	Dgnr 2°	(IV)
It2Ing ==> Ot2Oa	8	Dgnr 2°	(IV)
It2Ing ==> Ot3Ol	5	Dgnr 1°	(VII)
It2Ing ==> Ot3Oh	5	Dgnr 1°	(VII)
Rt2Sa =->It2Id ==> Ot1Op	7	Dgnr 2°	(III)
It2Id ==> Ot1Oi	7	Dgnr 2°	(III)
It2Id ==> Ot2Oa	6	Dgnr 2°	(IV)
It2Id ==> Ot2Od	6	Dgnr 2°	(IV)
It2Id ==> Ot3Oh	5	Dgnr 1°	(VII)
It2Id ==> Ot3Of	5	Dgnr 1°	(VII)
Rt2Sa =->It3Il ==> Ot2Ong	5	Dgnr 1°	(VII)
It3Il ==> Ot2Oa	5	Dgnr 1°	(VII)
It3Il ==> Ot3Ol	4	Dgnr 1°	(IX)
It3Il ==> Ot3Oh	4	Dgnr 1°	(IX)
Rt2Sa =->It3Ih ==> Ot2Ong	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Oa	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Od	5	Dgnr 1°	(VII)
It3Ih ==> Ot3Ol	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Oh	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Of	4	Dgnr 1°	(IX)

Rt2Sa =->It3If ==> Ot2Oa	5	Dgnr 1°	(VII)
It3If ==> Ot2Od	5	Dgnr 1°	(VII)
It3If ==> Ot3Oh	5	Dgnr 1°	(VII)
It3If ==> Ot3Of	5	Dgnr 1°	(VII)

for a total of Signs: 49

Thus, the *Index* produces no full signs, and its degeneracy is between one and two degrees, fourteen being degree one, and twenty-eight being degree two. This seems to be an odd pattern of degeneracy for a sign type which has as much importance to factuality as the Index does for Peirce. However, this degeneracy, when combined with the centrality of vectors, makes the Index a powerful sign pattern, for as Peirce seemed to indicate, it is a sign type which is the connective in semiosis between the ideal world of sign and the actual world of fact. The Index acts as a kind of gatekeeper between the world of sign, potentiality, and actuality; thus a central place is required both spatially and epistemologically. Still those who believe in the mythos of causation will undoubtedly find such a pattern disturbing, but since causation is an interpretative mode, perhaps it suffices to remind that causative indices are only probabilities, not certainties. The degeneracies of one and two degrees do, I think, demonstrates the approximate nature of knowledge and representation. Only a logical positivist would have any great difficulty with that notion, and Peirce is not a logical positivist. The very thrust of his Scholastic Realism, his Pragmaticism, and his Synechism is that ensigned knowledge is approximate, and even in the factual index, that is all there is—ensigned knowledge. "A realist is simply one who knows no more recondite reality than that which is represented by a true representation" (5.312).

As regards Peirce's Ten Classes, these vectors will produce a wide range of signs: fourteen Dicent Indexical Legisigns; fourteen Rhematic Indexical Sinsigns; seven Iconic Sinsigns; seven Dicent Symbols, and seven Dicent Sinsigns. More than half of them are indexical, nearly three-quarters of them are sinsigns, and the iconic and symbolic aspects are evenly balanced. This is not an insignificant set of vectors, for obviously the concentration of sign production is through the indexical and sinsign operations. The factuality of the sign, both as a certainty of experience itself and as the embodiment of our own actual

experience with the world, demonstrates the brute resistance of secondness, and Peirce is not soft and wooly nominalist. He consistently recognizes the need for factuality as the base of absolute secondness, for he is, first of all, an experimental scientist, but he also recognizes the need for approximation. But Peirce was also a logician, and the logical pattern associated with the Index as propositional subject, as replica embodiment for the Symbol is an equally necessary function of the Index, and this is shown in flow is through the Dicent vectors. Nearly three-quarters of the Indices operations are through the propositional vectors, which surely reflects the power of the Index and the proposition to develop our knowledge of the world.

2.3. The symbol as vector

Peirce's *Symbol* is a central side relation, on the first tier, and one can follow the S*d* vectors to any of six interpretants on the second tier—the I*i* , I*p*, I*d*, I*l*, or I*h*. For example, Id From the second tier, Peirce's Dynamic Interpretant, will give six possible vectors whereas I*a* will allow nine vectors connections with various types of objects.

Table 14. Symbol vectors

12.23 Symbol Vectors	My Rank	Degrees/	P's Rank
Rt2Sd =->It2Id ==> Ot1Oe	7	Dgnr 2°	(III)
It2Id ==> Ot1Op	7	Dgnr 2°	(III)
It2Id ==> Ot2Ong	6	Dgnr 2°	(IV)
It2Id ==> Ot2Oa	6	Dgnr 2°	(IV)
It2Id ==> Ot3Ol	5	Dgnr 1°	(VII)
It2Id ==> Ot3Oh	5	Dgnr 1°	(VII)
Rt2Sd =->It1Ip ==> Ot1Oe	8	Dgnr 2°	(II)
It1Ip ==> Ot1Op	8	Dgnr 2°	(II)
It1Ip ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ip ==> Ot2Ong	7	Dgnr 2°	(III)
It1Ip ==> Ot2Oa	7	Dgnr 2°	(III)
It1Ip ==> Ot2Od	7	Dgnr 2°	(III)

Rt2Sd =->It1Ii ==> Ot1Oi	8	Dgnr 2°	(II)
It1Ii ==> Ot1Op	8	Dgnr 2°	(II)
It1Ii ==> Ot2Od	7	Dgnr 2°	(III)
It1Ii ==> Ot2Oa	7	Dgnr 2°	(III)
Rt2Sd =->It2Ia ==> Ot1Oe	7	Dgnr 2°	(III)
It2Ia ==> Ot1Op	7	Dgnr 2°	(III)
It2Ia ==> Ot1Oi	7	Dgnr 2°	(III)
It2Ia ==> Ot2Ong	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Oa	6	Dgnr 2°	(IV)
It2Ia ==> Ot2Od	6	Dgnr 2°	(IV)
It2Ia ==> Ot3Ol	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Oh	5	Dgnr 1°	(VII)
It2Ia ==> Ot3Of	5	Dgnr 1°	(VII)
Rt2Sd =->It3If ==> Ot1Od	5	Dgnr 1°	(VII)
It3If ==> Ot2Oa	5	Dgnr 1°	(VII)
It3If ==> Ot3Ol	4	Dgnr 1°	(IX)
It3If ==> Ot3Oh	4	Dgnr 1°	(IX)
Rt2Sd =->It3Ih ==> Ot2Ong	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Oa	5	Dgnr 1°	(VII)
It3Ih ==> Ot2Od	5	Dgnr 1°	(VII)
It3Ih ==> Ot3Ol	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Oh	4	Dgnr 1°	(IX)
It3Ih ==> Ot3Of	4	Dgnr 1°	(IX)

for a total of Signs: 35

The *Symbol*, as we all know, shows itself to be a wooly beast with fifteen vectors leading to a degeneracy of only one degree and twenty more to a degeneracy of two degrees. If my vectors are correct here, such a pattern may help to explain both the power and limitations of convention that logicians identify with the Symbol and the inventiveness that artists find so productive in the symbol. It does turn out to be a most useful slippage, for if there are no Full signs but there are a host of near full signs and a solid clustering around the middle trichotomic functions of sinsign, legisign, index, and symbol, Using Peirce's Ten Classes, one finds the thirty-five vectors expressed as ten

Dicent (Indexical) Sinsigns, ten Dicent Indexical Legisigns, and five each of Rhematic Indexical Sinsigns, Iconic Sinsigns, and Dicent Symbols. It is true there are a limited number of specifically symbolic signs, but I think this is due to two factors. One, the Symbol, like the legisign, is affected by the need to have Replicas; it is a general sign that is more of a type than a token. Two, the Symbol is a type of occurring sign; that is, it is predominately a category of secondness and actuality. Thus, one uses an existent symbol to connect the general with the specific object represented by the symbol. So both the term and propositional influences are important, but what is striking is the importance of the indexical mode, with its buried icon of a peculiar kind, in all thirty-five vectors. We, of course, have to think of the sign as conventional, but Peirce broadened the concept of "conventionality" when he called the symbol not "arbitrarily ... nor purely conventional". (4.448) And since the Symbol is "a Great Engine of Discovery" which allows us "to create Abstractions" (4.531), it would appear that the indexical quality of the Symbol and the generative capacity of the icon are what allow its power of abstraction.

3.0. Vectors of the third trichotomy: Signs in relation to interpretants

3.1. The rheme as vector

Peirce's *Rheme*, on the first tier, is a corner relation with a thirdness, and one can follow *SI* vectors to four interpretants on the second tier—I*ng*, I*a*, I*h*, or I*l*. For example, I*a* From the second tier, Peirce's Actual Interpretant, will give nine possible vectors whereas I*l* will give four possible vectors to connect to the various objects, such as:

Table 15. Rheme vectors

13.21 Rheme Vectors	My Rank	Degrees/	P's Rank
Rt3SI =-> It3II ==> Ot2Ong	5	Dgnr 1°	(IX)
It3II ==> Ot2Oa	5	Dgnr 1°	(IX)
It3II ==> Ot3OI	3	Dgnr 1°	(X)
It3II ==> Ot3Oh	3	Dgnr 1°	(X)

Rt3Sl =->	It2Ia ==> Ot1Oe		Full Sign 0°	(VI)
	It2Ia ==> Ot1Op		Full Sign 0°	(VI)
	It2Ia ==> Ot1Oi		Full Sign 0°	(VI)
	It2Ia ==> Ot2Ong	5	Dgnr 1°	(VII)
	It2Ia ==> Ot2Oa	5	Dgnr 1°	(VII)
	It2Ia ==> Ot2Od	5	Dgnr 1°	(VII)
	It2Ia ==> Ot3Ol	4	Dgnr 1°	(IX)
	It2Ia ==> Ot3Oh	4	Dgnr 1°	(IX)
	It2Ia ==> Ot3Of	4	Dgnr 1°	(IX)

And I*ng* and I*h* will give six (6) possible vectors, such as:

Rt3Sl =->	It2Ing ==> Ot1Oe		Full Sign 0°	(VI)
	It2Ing ==> Ot1Op		Full Sign 0°	(VI)
	It2Ing ==> Ot2Ong	5	Dgnr 1°	(VII)
	It2Ing ==> Ot2Oa	5	Dgnr 1°	(VII)
	It2Ing ==> Ot3Ol	4	Dgnr 1°	(IX)
	It2Ing ==> Ot3On	4	Dgnr 1°	(IX)
Rt3Sl =->	It3Ih ==> Ot2Ong	5	Dgnr 1°	(IX)
	It3Ih ==> Ot2Oa	5	Dgnr 1°	(IX)
	It3Ih ==> Ot2Od	4	Dgnr 1°	(IX)
	It3Ih ==> Ot3Ol	4	Dgnr 1°	(X)
	It3Ih ==> Ot3Oh	3	Dgnr 1°	(X)
	It3Ih ==> Ot3Of	3	Dgnr 1°	(X)

for a total of Signs: 25

Thus, if one enters with S*l*, Peirce's Rheme, one can then follow to four interpretants on the second tier and six objects on the third tier to produce five reversed, Full and twenty signs which are degenerate to only one degree, and five of which are Arguments constructed of three thirds. Of its five full signs, two end at emotional objects justifying the firstness of the Class; two end at the possible object of the indexical quality which is preparatory to the Dicent Symbol, and even one sign end at the immediate object approaching the state of full generality. This is obviously a powerful series of vectors and

suggests why categorical classification and naming work as well as they do. The range of degeneracy is fairly small clustering around three classes of signs, and the extent of redundancy is so strong as to make classification the semiotic tool it is. On using Peirce's Ten Classes, one finds that the degenerate signs are of three types: five Dicent Indexical Legisigns, ten Dicent Symbol (Legisigns), and five Arguments. So there is a full shift to the lower right quadrant of the trichotomies to provide the logical thrust of these classes. Also, all of the five reversed full signs are Rhematic Indexical Legisigns. So that the patterns expressed here greatly reflect the regularities of thirds. What is stressed is the propositional mode of classification and the indexical mode, but all of the vectors will have the generality of the legisign. What I find interesting about the reversed signs is that two of them pull to the quali-object, two of the pull to the sin-object, and only one pulls to the legi-object; so the Rheme is not very accurate logically, which seems reasonable considering the often arbitrary nature of our names and classifications. But it is a powerful vector as a Seme because it expresses the full substitutive potentiality of the sign

3.2. The proposition as vector

The S*h*, Peirce's *Proposition*, on the first tier, also has a thirdness, and one can follow its vectors to six interpretants on the second tier—I*ng*, I*a*, I*d*, I*l*, I*h*, or I*f*. For example, I*a* From the second tier, Peirce's Actual Interpretant, will give nine possible vectors, whereas I*ng*, I*d*, and I*h* will give six possible vectors, and I*l* and I*f* will give four possible vectors to connect to six various objects, such as:

Table 16. Proposition vectors

13.22 Proposition Vectors	My Rank	Degrees/	P's Rank
Rt3Sh =->It2Ing ==> Ot1Oe		Full Sign 0°	(VI)
It2Ing ==> Ot1Op		Full Sign 0°	(VI)
It2Ing ==> Ot2Ong	5	Dgnr 1°	(VII)
It2Ing ==> Ot2Oa	5	Dgnr 1°	(VII)
It2Ing ==> Ot3Ol	4	Dgnr 1°	(IX)
It2Ing ==> Ot3On	4	Dgnr 1°	(IX)

Rt3Sh =->It2Ia ==>	Ot1Oe		Full Sign	0° (VI)
	It2Ia ==> Ot1Op		Full Sign	0° (VI)
	It2Ia ==> Ot1Oi		Full Sign	0° (VI)
	It2Ia ==> Ot2Ong	5	Dgnr	1° (VII)
	It2Ia ==> Ot2Oa	5	Dgnr	1° (VII)
	It2Ia ==> Ot2Od	5	Dgnr	1° (VII)
	It2Ia ==> Ot3Ol	4	Dgnr	1° (IX)
	It2Ia ==> Ot3Oh	4	Dgnr	1° (IX)
	It2Ia ==> Ot3Of	4	Dgnr	1° (IX)
Rt3Sh =->It2Id ==>	Ot1Oi		Full Sign	0° (VI)
	It2Id ==> Ot1Op		Full Sign	0° (VI)
	It2Id ==> Ot2Ong	5	Dgnr	1° (VII)
	It2Id ==> Ot2Oa	5	Dgnr	1° (VII)
	It2Id ==> Ot3Ol	4	Dgnr	1° (IX)
	It2Id ==> Ot3Oh	4	Dgnr	1° (IX)
Rt3Sh =->It3Il ==>	Ot2Ong	5	Dgnr	1° (IX)
	It3Il ==> Ot2Oa	5	Dgnr	1° (IX)
	It3Il ==> Ot3Ol	3	Dgnr	1° (X)
	It3Il ==> Ot3Oh	3	Dgnr	1° (X)
Rt3Sh =->It3Ih ==>	Ot2Ong	5	Dgnr	1° (IX)
	It3Ih ==> Ot2Oa	5	Dgnr	1° (IX)
	It3Ih ==> Ot2Od	5	Dgnr	1° (IX)
	It3Ih ==> Ot3Ol	3	Dgnr	1° (X)
	It3Ih ==> Ot3Oh	3	Dgnr	1° (X)
	It3Ih ==> Ot3Of	3	Dgnr	1° (X)
Rt3Sh =->It3If ==>	Ot2Oa	5	Dgnr	1° (IX)
	It3If ==> Ot2Od	5	Dgnr	1° (IX)
	It3If ==> Ot3Oh	3	Dgnr	1° (X)
	It3If ==> Ot3Of	3	Dgnr	1° (X)

for a total of Signs: 35

Thus, if one enters with *Sh*, Peirce's *Proposition*, one can then follow to six interpretants on the second tier and all objects on the third tier to produce seven full, reversed signs at zero degree degeneracy and

twenty-eight signs which are degenerate to only one degree. This is obviously a powerful series of vectors and suggests why propositional logic is as effective as it is, and it is worthwhile to note that while the Proposition will generate some six more signs of one degree degeneracy than the Rheme, both share a similar proportion of degenerate signs to reversed signs. The logical thrust is the same, but the dyadic quality of assertion is more logically powerful than mere classification because of the nature of law. The range of signs is very narrow, reflecting the impact of redundant thirdness, and, of course, it pushes more toward the regularity of Argument. On using Peirce's Ten Classes, one finds a balanced proportion of relations in the Dicent Proposition with seven Dicent Indexical Legisigns, fourteen Dicent Symbol (Legisigns), seven Arguments, and seven Rhematic Indexical Legisigns. Again the number of reversed signs and Arguments are equal, showing how closely Peirce's Sixth class and Tenth class are related. So whether one uses my degrees of degeneracy or Peirce's trichotomies, the relationship between classification and propositional logic is clearly demonstrated. The most interesting thing is that the reversed signs will pull equally to the quali- object and the legi-object except for the three which pull to the sin-object. This suggests, I think, that propositions to have an heavy indexical quality, but they are equally capable of expressing quality or regularity; it is equally a dicisign and a seme. However, the separate pulls also suggest the function of the Primary and secondary objects and the shared role of interpretants, which is, after all, what Peirce determined is the power and ambivalence of the Dicisign.

3.3. The argument as vector

Finally, the remaining side relation of S*f* is, on the first tier, Peirce's *Argument*, and one can follow its vectors to four interpretants on the second tier—I*a*, I*f*, I*h*, or I*d*. For example, I*a* From the second tier, Peirce's Actual interpretant, will give vectors to nine possible objects, whereas I*d* and I*h* will give six vectors and I*f* will give vector connections to four possible objects, such as:

Table 17. Argument vectors

13.23 Argument Vectors	My Rank	Degrees / P's Rank
Rt3Sf => It2Ia ==> Ot3Ol	4	Dgnr 1° (IX)
It2Ia ==> Ot3Oh	4	Dgnr 1° (IX)
It2Ia ==> Ot3Of	4	Dgnr 1° (IX)
It2Ia ==> Ot2Ong	5	Dgnr 1° (VII)
It2Ia ==> Ot2Od	5	Dgnr 1° (VII)
It2Ia ==> Ot2Oa	5	Dgnr 1° (VII)
It2Ia ==> Ot1Oe		Full Sign 0° (VI)
It2Ia ==> Ot1Op		Full Sign 0° (VI)
It2Ia ==> Ot1Oi		Full Sign 0° (VI)
Rt3Sf => It2Id ==> Ot1Oi		Full Sign 0° (VI)
It2Id ==> Ot1Op		Full Sign 0° (VI)
It2Id ==> Ot2Od	5	Dgnr 1° (VII)
It2Id ==> Ot2Oa	5	Dgnr 1° (VII)
It2Id ==> Ot3Oh	4	Dgnr 1° (IX)
It2Id ==> Ot3Of	4	Dgnr 1° (IX)
Rt3Sf => It3Ih ==> Ot2Ong	4	Dgnr 1° (IX)
It3Ih ==> Ot2Oa	4	Dgnr 1° (IX)
It3Ih ==> Ot2Od	4	Dgnr 1° (IX)
It3Ih ==> Ot3Ol	3	Dgnr 1° (X)
It3Ih ==> Ot3Oh	3	Dgnr 1° (X)
It3Ih ==> Ot3Of	3	Dgnr 1° (X)
Rt3Sf => It3If ==> Ot2Od	4	Dgnr 1° (IX)
It3If ==> Ot2Oa	4	Dgnr 1° (IX)
It3If ==> Ot3Oh	3	Dgnr 1° (X)
It3If ==> Ot3Of	3	Dgnr 1° (X)
		for a total of Signs: 25

Thus, if one enters with S*f*, Peirce's *Argument*, one can then follow to four interpretants on the second tier and six objects on the third tier to produce five full, reversed signs at zero degree degeneracy and twenty signs degenerate to only one degree. It is important to note the concentration of degeneracy in this series of vectors, for the Argument

the most compelling of signs. Yet if eighty per cent of them are degenerate to one degree and twenty per cent are reversed signs, how then can they be so compelling? How can they represent Law? I suspect that since an absolute and Final Interpretant is only a theoretical reality, it seems sensible that the most rigid of vectors would also have this degree of precise "slippage" in the sign flow. Arguments are not absolute, they are just compelling. Remember that Peirce says, "There is no absolute third, for the third is of its own nature relative." (1.362)

So the Argument vectors are strong and compelling; they cluster quiet clearly toward the thirds of argument, but they are obviously not certain. I think this is demonstrated by turning to Peirce's Ten Classes, for the thirdness will insure that ten of the vectors will be Dicent Indexical Legisigns, five of the vectors will be Dicent Symbol (Legisigns), five of the vectors will be Arguments, and the reversed sign vectors will be Rhematic Indexical Legisigns, again making a parallel between the Sixth and Tenth Classes of Signs. So parallel to Peirce tracing of the Rhematic Indexical Sign, two of my reversed signs will pull toward the legi-object, for an instance of a law "to be really affected by its Object" (2.259) in order to be really compelling arguments of regularity. Two of them will pull toward the sin-object as, I suppose, replicas of such a legi-object in order to be actual, individual, concrete occurrences of those arguments, and the fifth will pull toward the quali-object suggesting, I believe the emotional potentiality and intuitive abduction that can become those compelling arguments. If my speculations are accurate here, then this pattern certainly widens the nature of Argument to include more of the rhetorical notion than simply a logical one. The emotional quality of argument is as important as the logic, and the concreteness of it is as important as it regularity, as any one who has ever faced the utility of the informal fallacies knows.

If I have mis-bespoke argument through my comments here, it is probably because my ear has been burned by the dogmaticism of those logical positivists who are wont to read Wittgenstein's *Tractatus* as the final gospel and to think of the *Philosophical Investigations* as a quaint recanting of a mystic, but I do hear a priority given to argument in much Peircean scholarship. That priority may not be solely Peirce's, but it does creep into lots of discussion by his scholarly readers. If I have distorted Peirce here, it has been to redress that prior distortion of Peirce's system by crypto-rationalists. Peirce, finally in his life long

search for the semeiotic, seems to have begun to see more fully that Argument is that which "changes thought", and if that notion is kept in the forefront, then even the crypto-rationalistic, and probably reductionistic, hierarchy will ultimately count for little, and for that matter, neither will my redressing in favor of potentiality count for much. The sign is, after all, persuasive, it surely is argument in the larger sense. It does change thought, or people would not bother with texts like these.

Notes

1. I say this because Peirce first suggests the word *Trichimania*, but indicates that its association by psychiatry is "for a totally different passion". If my reading of the etymological root is correct, Peirce is alluding here to a hair fetish. Also in the title page of "One, Two, Three", he defines *Trichotomic* as the "art of hair-cutting" (MS 905:2). Thus, he is wont to play in what is nevertheless a serious argument.
2. This manuscript and the version included in the *Collected Papers* is an example of the difficulties of working with Peirce. First, Hartshorne and Weiss select only ten pages of the manuscript. Then, they ignore the inserts (ms pages 11-18) which Peirce added to the manuscript and say the manuscript breaks off at page nineteen when, in fact, it continues for some twenty-one more pages. In addition, Peirce seems to have two versions of his classification inventory argument (1.569 and MS 902:30-32), and my contention of a third argument exists only in the manuscript, and rather than being complete it ends on the suggestion of a reading list in logical nomenclature.
3. I am, of course, using the term *stuff* in its semiotic sense of the world's material uncoded and unsigned—a hypothetical necessity unless one wants to grant that semiosis is a closed self-referential loop, and I do not!
4. The *Pons Asinorum* is the Ass's Bridge of Euclid's Book I, Proposition 5, having to do with equal angles at the base of isosceles triangles. It was also called the "Bridge of Fools" apparently because it was the dividing line between those medieval students who could comprehend mathematical thinking in geometry and those who could not. See Smith (II, 1925:196), Sanford (1958:270), and Martin (1975:195). It is germane here because the Bridge of Fools, like circle squarers and perpetual motion inventors, is one of those self-reflexive problems in reasoning that fuels both dilettantes and geniuses. I suppose they are the shadows of Gödelian sentences which although necessary to a system of thought cannot be established by the thought which they inform. As with much of Peirce, they are those points in thinking where thought turns to thought, inquiry to inquiry, or sign to sign.
5. See Chapter Four, Section 4.1.0, for clarification of the terms *triad*, *trichotomy*, and *tri-relative*.

6. See "Peirce, Pragmatics, and Pyramids" in *Ars Semeiotica* (1981) and also in my *Semiosis, Marginal Signs and Trickster: A Dagger of the Mind* (1990), for a more extended discussion of these models and their applications. I will not burden the reader with repeating the arguments here, but the questions raised by those models and my exploration of them lead to this study.
7. As shown in Figure 2 Ogden and Richards make, in *The Meaning of Meaning*, a signific triad of Symbol, Thought and Referent with a dotted line drawn between the Symbol and the Referent (1923:11). This "imputed relation" is the one which causes Ogden and Richards to confuse the interpretant with the interpreter, bringing the sign back to a dyadic definition.
8. I take it that the commonplace of Euclid's importance in training the reasoning is really common, but in Peirce it is quintessential since diagrammatic reasoning is the most important method of discovery.
9. I am sure Ketner does not agree with Ogden and Richards, but his insistence about dyads in the triangle comes, I think, for the same visual, verbal distinction and habit of Ogden and Richards.
10. There are many similarities between Buckminster Fuller and Peirce, and this study cannot detail them at all. But both thinkers use a difficult and self-evolved style of thinking and representations to discuss somewhat the same problem—the relationship between human thinking and the structures of the physical world. Both are obviously mathematical and geometric in thinking, and both are drawn to articulating the similar relationships between system, structure, and growth. I suspect there is a profound study here for someone whose intellect is capable of "tussling" with such geometric thinking applied on a grand scale.
11. There is much topology in Peirce. Often when he discusses the continuum, he resorts to topological examples as in the blackboard illustration (6.203-213) where he uses such terms as *Listing Numbers*, *cyclosis*, and *Periphraxis of Space* and in the discussion of "Multitude and Number" (4.219) where he uses terms like *chorisis*, *topical acnodes*, and *topical nodes* to describe sets of infinities. But, in talking to modern mathematicians, I am told Peirce's terms are outdated and am given formulae I do not understand. Still, I can envision, if not represent mathematically, the kinds of topological relations Peirce is discussing.

12. And they will continue to do so, but see particularly Joseph L. Esposito's *Evolutionary Metaphysics: Development of Peirce's Theory of Categories* (1980) for a very clear examination of how Peirce's categories evolved and what they signify. I am much indebted to his study for my understanding of a rather abstruse area of thinking.
13. The etymological borrowing of a term which means "that of which a person is accused" for transformation into a term which means "to predicate something" is in itself a rather fascinating notion given the incestuous relation between law and logic. More importantly, the practical qualities of both discourses should suggest the tool nature of the term rather than an absolute sense, and the pragmatic notion of categories as hypothetical and theoretical tools is reasonably close to Peirce's conception.
14. In a manuscript discussion of the difference between modes of Meaning and modes of Being, Peirce says that Aristotle, "before the conception of Grammar was settled, evidently drew his categories from the parts of a speech, and apparently regarded them as the very same concepts whether they were applied to words or to things, unquestionably held them to be 'objectively valid'" (MS 402:36). Syntactically, "grammar" is significant in any sequence, logical or illogical for that matter, because the syntax of an expression is part of the classificatory operations of the signs used, be it natural language, machine codes, biological codes, mathematics, or logics, but the bone of contention here is whether they are "objectively valid" or not.
15. I trust that echoes of Martin Buber will reverberate here, for the closure of the knowing mind with the known object is a dissipation of the solipsistic state of being. Divinity, in the sense of Evolutionary Love, emphasizes the dynamic of growth in personhood by Becoming—"Thou art God" as the Hindus say.
16. I have kept this mixed, synesthetic metaphor on purpose, for signs can be expressed in any media, and the spoor of a beastie is dependent on the media specificity of the tracker. Also, I grew up in Texas where one hears snakes!
17. I call this edge "The Trickster Point" in *Semiosis, Marginal Signs and Trickster: A Dagger of the Mind* (1990); it is the locale of systemic ambivalences.
18. This idea comes from Peirce's complaint that European languages make too much of the distinction between verbs and nouns. There

he imagines "a language [that] has a verb meaning 'is a man,' [where] a noun 'man' becomes a superfluity" (3.459). Furthermore, he says a logic of relatives "will dispense with class names and only use such verbs". Therefore, I use "Verbing" in the sense of participles in English—a verbal form that is often used to deal with acts that are in the process of taking place. I take it the emphasis is more on becoming than being. Also, participles are one of the more flexible and undifferentiated morphemic structures, being used as either verb phrase, verbs, adverbs, adjectives, connectives, or nouns, and the oddity of the expression ought to underscore Peirce's sense of a pure "relative" as distinct from a "complete relative".

19. Esposito says that Peirce realized his own mistake in seeing Firstness as "a category of being in its own right" (1980:80) when he replaced the monad with the medad, but I think it better to say that Peirce simply realized how necessary prescission was to the categories and a semiotic way of thinking. But the point may be moot, for both Esposito and I agree that "Real potentiality, then, is only possible if Thirdness is First!" (1980:191)
20. This whole issue reflect the relativity problem of modern physics. Human perception, or measurement by Heisenberg's Uncertainty Principle, must settle for non-absolute knowledge, yet it is equally obvious that our knowledge, measurement, or perception are sufficiently accurate (at some level of scale) to produce operable scientific structures. So, in many ways, the problem of measurement and the problem of signing are distinctly parallel in their paradoxical natures.
21. See Rudy Rucker's *Mind Tools: The Five Levels of Mathematical Reality* for the archetypal power in the pattern of numbers (1987:14 and 49). He argues that Number, Space, Logic, Infinity, and Information are the five levels of mathematical reality and that "the thought forms dyad, triad, and tetrad are objectively given archetypes" (1987:21). It is a notion I think Peirce would share and appreciate.
22. I should point out that while Secondness produces "thisness", Firstness produces "thusness"—the first term suggesting "thingness" and the second term suggesting "becoming". Both are "vivid" and "insistent", but "thisness" is archetypally other.
23. See Chapter Five for further discussion of degrees of degeneracy.

24. This "proof", the reduction proof of valency analysis, is the subject of Kenneth Ketner's article in the *International Philosophical Quarterly*, Vol 26, where Ketner argues that Peirce does the proof diagrammatically rather than algebraically.
25. I really do not care for the hierarchical rank these comparative terms imply, but this is the simplest way to put the "position" of the Qualisign. What should be really stressed is that the Qualisign is a boundary of semiosis, and the when and where of that boundary complicates what really cannot be reified except perhaps on a temporal line of prescission.
26. This wonderful throw-away phrase is not explained by Peirce, but he seems to use it consistently to describe a mixture of sign types. I have taken it here to refer to "embodiment", but he also use the same phrase to describe those "not ordinary" Sinsigns that are "significant" replicas of Legisigns. This same pattern of using "a peculiar kind" to refer to the boundary between firstness and secondness and between secondness and thirdness follows in the other trichotomies, and although I love the phrase for it simple promise, I think it probably has to do with degrees of degeneracy or with those boundaries of absolute firstness and absolute secondness.
27. The nature of this "overlapping" actually is not very clear, since there are lots of differences, trichotomous if nothing else, between a Symbol and a Legisign, but nevertheless, the Famisign, the Legisign, and the Symbol all share something of a conventional nature; they are all rule governed operations. Generally, I think the Famisign is one of Peirce's later generic terms used to explain the Semeiotic to Welby, and the Legisign and the Symbol are, as he charts them, respective the thirds of the first and second trichotomies of the sign, in itself. At least, that is perspective I am trying to articulate here.
28. Note again here the use of "a peculiar kind" referring apparently to the interconnections between the Categories.
29. I may be using this phrase "a peculiar kind" in a way Peirce did not intend since he does not mention the rheme have anything of a peculiar nature, rather such "peculiarity" is attributed to the Dicent Sign having to do with lack of assertion. As I have said, he tends to use the phrase to describe relations of embodiment and replicas. Still, the difference between a logical rheme and a potential seme is an important distinction, and the fact that

Peirce also usually identifies this "peculiarity" with the problems of assertion, existence, and potential existence makes my use reasonably consistent with Peirce's thinking.

30. There is a mare's nest of difficulties in these terms. First of all, they obviously are an informational trichotomy with "essential" referring to firstness, with "substantial" referring to secondness, and with "informed" referring to thirdness. Then there is the matter of "breadth" and "depth", which are, I take it, respectively extension and comprehension having to do with the logical distribution of a term, denotation and connotation having to do with the reference of a term, and distinctness and clearness having to with the particularity of a term. In short, there is a whole course in logic here.
31. Of course, Peirce later beliefs "this position is open to doubt".
32. This phrase may strike some as redundant, but I have used "existential index" to refer to actually existent indices, and those would be different from indices used, for example, in realistic fiction.
33. One must be careful here not to give epistemological priority to the world of objects other than is already established by Secondness. What seems to be suggested here by the "primary" and "secondary" objects is that if there is an interpretant flow, as causative or parental agent, from object to sign, the dynamic object, to use another Peircean phrase, will ultimately somewhere somewhen be the limit of the series. The creator may be the Word, but the creation, as matter and as long as it is matter, will be of a second nature; however, because of growth, evolutionary love, and the community of inquirers, there will be an evolution toward a Final Interpretant where the fracture between Secondary and Primary, or between Immediate and Dynamic, Objects will be infinitesimal, at least till the wee sign comes fracturing it again for whatever evolutionary purposes are necessary or wanted.
34. There is much discussion about which of these three terms means what, and I suspect there will continue to be much debate over their usage. Still, although I doubt I will settle the discussion, I can at least declare my usage.
35. The relations squares in "The Simplest Mathematics" are rotated 45 degrees from the horizontal. I am not yet sure what the reason for the rotation is, it may be related to dichotomic mathe-

matics, or the convention may represent something else, but I do assume that the tri-square represents the inter-relations of sets of classes and that it is a fundamental icon in the representation of trichotomies as algebra, logic, or semeiotic.

36. There is a skeletal version of the Tri-Square in Deledalle's *Charles S. Peirce: An Intellectual Biography* (1990:56), but mostly I am following materials distributed by Professor Deledalle at the International Summer Institute for Semiotic and Structural Studies (ISISSS'85) at the University of Indiana in Bloomington in 1985, and any errors are due to my lack of understanding, not Prof. Deledalle's communication.
37. Irwin C. Lieb appended to his *Charles S. Peirce's Letters to Lady Welby* (1953) an extended account of Peirce's trichotomies, and he uses a version of a tri-square quite similar to the one used here. Lieb also has suggested tri-squares for the ten trichotomies, but like Hartshorne's and Weiss's schema in the *Collected Papers* (notes on 2.235) or Weiss's and Burks's versions in "Peirce's Sixty Six Signs" (1945), the numerical spinning of the classes of signs is most confusing, and I suspect, like Gary Sanders (1970), that attempts to detail all classes of signs is counter-productive.
38. I obviously am thinking here of a carpenter's try square, a tool used for checking right angles and inscribing straight lines across materials, but since such a tool is often used for drawing, a grid of boxes also suggests the perspective grid of Renaissance painters. I make no contention that Peirce would have considered this name appropriate, but the tool metaphor makes it seem an appropriate name since Peirce is able to generate so much understanding from this type of arrangement.
39. It would be interesting to know who this "eminent and glorious" General of "superior intelligences" is; perhaps it is William James whose psychologism distorts Peirce's pragmaticism.
40. One can probably make too much of this, but too often the spatial aspects of thinking are simply buried as dead metaphors in language. Our visual and tactile bias as sensory creatures must have profound influence on our signing, not just in the sense of media, but in the sense of the shape of thinking. The surveyor had a special role in the forming of the American territories and character, and it was a handy, pragmatic skill that seemed to suit American tinkery. Virgins and Dynamos notwithstanding, the potentiality of the vast west to be surveyed was as much of a

cultural impetus for America as the more abstract concepts of freedom. There is something about a far-off horizon that needs marking, and there is a little bit of the surveyor in all Americans.

41. Visually, I conceive of a field of interpretants literally—something like Eco's metaphoric network (1984:75) only more abstractly defined as in a map. The fields of Interpretants are the various extensions of an original representamen carried as far as is necessary to catch the kind of semiotic flow of which a sign is capable. The later Tri-Square of Interpretants and the Cubed Tri-Square of the next chapter are just the initial surveying of such fields, by a rather clumsy surveyor.
42. This fact is, of course, the reason for the problems of whole numbers, rational numbers, and transcendental numbers—the very shroud of the ghost of approximation that haunts contemporary scientific thinking.
43. An oddity in semiotic studies is the amount of praise given to Saussure for his "word picture" concept in contrast to Peirce's verbosity, but an important point for both semiotic thinkers is that verbal sign and visual sign are inseparable, or at least constitute infrastructures for each other even if the visual was probably chrono-genetically prior. The architectonics of the brain, if we ever understand it, ought to establish that the sign function is neurologically bisymmetrical, and verbal sign without visual sign is impossible, and visual sign without verbal sign is minimal for our type of sentience.
44. For those interested in the model of the double helix and the sense of the DNA/RNA code as a "proto" language, there are possibilities here, but I cannot yet articulate them.
45. See Section 6.1.1 of Chapter Six where I discuss these classes of signs as "leapers" because of their non-contiguous generation.
46. Obviously if one utilizes my spiral reading discussed earlier, then the Rhematic Indexical Legisign will have either the pole or terminus positions, alpha or omega, depending on whether one reads the spiral in or out, left-handed or right-handed. But then those polarities are characteristic of the whole problem of visually representing Signs, or may be as Fuller suggests it is just part of the synergetic nature of the tetrahedron.
47. I should note this does not mean a causative relation must be based on a factual "existence;" it can just as easily be an "imagined" cause, as in sympathetic or contiguous magic, or

as Peirce says of the Symbol, "we must understand by 'existent,' existent in the possibly imaginary universe to which a Symbol refers" (2.249). The nature of the iconic relation of similarity or the indexical relation of contiguity is a matter of describing sign use, not describing "existence" except as a sign relation. However, it is equally true that the persistence of Secondness will tend to filter those "use relations" causing some to be discarded as not operable, silly, or inconsistent with some universe (imaginary or real). That is the purview and the responsibility of the community of inquirers and movement toward the Final Interpretant.

48. See Chapter Four, Section 4.2 for a synoptic view of Peirce's Ten Classes of Signs, particularly as they are explained to Lady Welby.
49. I am working from lecture notes here; so I may mis-remember Deledalle; if there is confusion here it will be more from my thinking than either Deledalle's or Peirce's.
50. Shea Zellweger (1982) has written and said this repeatedly, but I could not understand it until after working with physical models, on more than one occasion, I awoke the next day with images of how the relationships of the tri-square are the same relations of Peirce's tri-angular table even if rendered in different spatial forms. I urge the reader to compare the two sets of tables and to note how the "degenerate" classes form a central square in Peirce's triangular table if you draw four lines connecting the outside corners of II and IX with the contiguous corners of V and VIII and of III and VII. This square surrounds the wondrous Rhematic Indexical Legisign (See Chapter Three and my Appendix for tracings of this), and outside of square, the three corners of the triangular table are the genuine signs of firstness, secondness, thirdness.
51. This notion of "trace" here is not really metaphoric; it is meant in its diagrammatic sense, but it does have three sense of semiotic experience that could be more fully developed. The first is obviously the spatial and physical motion of drawing a line reflecting devices in both a surveyor's map-making and the diagrammatic rendering of relationships. The second is the chronological and physical sense either as an archeological residue or as a chemical, atomic residue of the movement/presence of a element's passing. But thirdly a "trace" has that wonderful Freudian notion of "residue", and although I wish to make no

claims of repression in the sign, I am intrigued, as Peirce was, by the archeological trace of etymological history, for the sense of Sign's having a life of their own, in part, is due to their diachronic existence; that is, they trace their usage over time and carry with them the residues of their generation.

52. The examples used are, of course, from Peirce (2.254-64).
53. I say this because it is, in Peirce's triangular representation (2.264) the central sign, and as I argue later the objective boundary of the sign.
54. In the manuscript of *Significs and Logic*, Peirce rebukes artists and philosophers who are "interested almost exclusively in the sensuous impression things make, use "Real" nearly as a synonym of "vivid", or that which makes a considerable general commotion of the person who contemplates it. They may usually be recognized by their speaking of one thing as "more Real" than another; for one who knows the proper meaning of Reality will perceive that it is not subject to degrees" (MS 642:3). Thus, "genuine" must not be conceived in terms of authenticity, but in terms of categorical consistency!
55. I mean this quite seriously although "iconic photograph" is a construct that some may argue is indexical because of the chemical nature of film. But particularly in light of the distrust that verbo-central cultures have for visual images (either as dreams, photos, advertisements, cinematography, or television, etc), it is important to recognize that visual objects are increasingly less indexical because of technological innovation, and the more folk are anxious about technological impact on values, the more they are anxious about those iconic and/or indexical objects. Thus, the universal globality of visual objects in information processing, their immediacy in terms of viewer response, and their lack of verbal control obviously suggest that such "objects" are very "energetic".
56. I did consider making the Interpretant interface completely symmetrical, but it so changes the sign relationships of the tri-square that it actually generates sign types that Peirce did not consider. Therefore, I thought it more sensible to portray the Interpretant interface in only the three dimensional aspects of the cube and non the two dimensional aspects of the tri-square itself. Better mathematical minds than mine will have to judge whether this choice was ignorant, fortuitous, or necessary.

57. I cannot demonstrate mathematically the topological similarities between either a triangle and a square or between a tetrahedron and a cube, but I "know" visually and kinesically that they are there. It will take a better mathematical mind than mine to "prove" such relationships, and even then I realize that the relationships may not be as significant as I think. I may be simply caught in the reveries of mathemes, but I do not think so. The repeated tracings of this similarity seem to be borne out as trichotomously operating.
58. Richard Tursman, who kindly read the manuscript for these chapters on triadomany and who tried to instruct my mushy mind in the finer points of logic that border the Path of Inquiry, made a cogent observation about my Tier model. Generally, he said he wished he understood semiosis enough to judge whether my model was a brilliant development or a strong development or "semiosis become unglued". He then pointed out all the developing interpretant and object relations "may unglue the original triadic relation which supplied the original interpretant". He ponders what will happen to the "normal" sense of an object as one approaches the final interpretant and the final object: will that object be "different" than the one we have known all along; will it not be the same object; should we introduce terms like "normal" and "final" interpretant or object to reflect any difference; will this lead to new classes of signs, etc?

    I am not sure I can answer him; my own beast grows out of my understanding. But I can respond in three ways. One, my understanding is that the Dynamic Object and the Immediate Object will never be the same; approximation is the fate of sign users! Two, I do not think semiosis can "become unglued" even if I do stretch its sinews, for if the trichotomous relation is operating, it is simply very complex semiosis, and as a number of arguments in this study struggle to establish, semiosis is an ongoing development of growth. And growth, when it comes to the shifting of scale, surely looks like the separation of inseparable connections—some of which surely look like chaos or death, some of which are chaos and death, and some of which are new patterns. Three, whether the objects I now know are the same objects I knew at an earlier stage of existence is an epistemological quandary. On the one hand, of course, they are; at some

level an object is the thing it is whether I am aware of it or not. Ah, but on the other hand, the object is not the same, for I am more capable of understanding the object when I have more information about the object, and I sometimes see it as a different object—the perspective and the paradigm shift. Like a child asking why the sun sets, at some point of intellectual development, the explanation that it is sleeping is sufficient, but at another level of growth, satisfaction requires more. One might as well ask does Stephen Hawking know the same sun I do. The answer is yes and no depending on the perspective of the question and the intents of the questioner.

59. I am not sure this is a methodological necessity, but making the orientation clear helps in visualizing the Cubed Tri-Square and it will be necessary for physically tracing the sign vectors. See the Appendix for the details of this, which yield some interesting observations about the operations of the classes of signs.
60. Geometrically, vectors are contradistinct to scalars in that they require notation of both their direction and magnitude. Thus, they seem an ideal term for sign flow.
61. As arguments later in the previous chapter show, the problem of order in Peirce's Ten Classes is no small problem. As I argue, my ranking seeks to follow a path of potentiality from the central sign (VI) because it is the one fully mixed sign.
62. See the longish footnotes in the *Collected Papers* in 2.236-243. It is obvious that Peirce's trichotomies can be conceived in different ways, but my degrees of degeneracy are similar to the editor's conception of the ten classes of signs (2.236n). However, I have not rearranged Peirce's text to produce "harmony", rather I have followed Peirce's idea out spatially and as literarily as I can according to the three correlate rules, without an assumption of a hierarchy. I am not sure my Cubed Tri-square is any better, but the specificity of degrees does allows some comparison of the variations in the tri-relative influence.
63. It may very well be that the best model for the Semeiotic is something from topology, the Torus, that doughnut shape of one surface that is characteristic of living systems in general and sign users in particular.
64. This obviously is neither Peirce's sixty-six classes of signs, nor the 59, 049 possible classes, but then I do not yet understand how all the numbers get generated. For the problems extant in the

classes of signs, see Gary Sanders, "Peirce's Sixty-Six Signs?" in *Transactions of the Charles S. Peirce Society*, Winter 1970, Vol. VI, No. 1, pp. 3-16); also see Paul Weiss and A. W. Burks, "Peirce's Sixty-Six Signs" in *The Journal of Philosophy*, XLIII (1945), pp. 383-88; nor should one overlook the footnote by Hartshorne and Weiss in the "Division of Signs" in the *Collected Papers*. However, I do not think this aspect of numerological semiotics is necessary or very important perhaps because my mathematical sense is so weak, but also because what is of interest to me is sign production more than sign classification and sign typology.

65. Peirce says of one of his created terms: "It is far better to invent a word for a purely technical conception than to use an expression liable to be corrupted by being employed by loose writers" (3.573). Of course, I am probably closer to being a "loose writer" than a "technical" one, and although the similarities of "interpretants" and "interpretance" is deliciously homophonically ambivalent, I think the term is a necessary one for closing on the rule of interpretants.
66. I put it this way because the failure of machine translation has become one of the supporting narrative of the mythos of the stupid, and consequently non-threatening, computing machine. This may be comforting to compu-phobes, but the point is that the notion of algorithms is the culpert not that a complex system of translation is impossible.
67. "Conscission", here, is perhaps only the play of musement (6.455), the attempt to find connections between the three universes. It is a term built on the root of "prescind", and clip/blending of *con* and *scindere* to indicate a process of cutting together. As a semiotic principle, it is "motivated by a desire to comprehend universe-wide aggregates of unformulated but partially experienced phenomena" (6.463), and it is, first and foremost, the connective capacity of thirdness. As a evolutionary principle, it is the concentrative, rather than dissipative, force in the universe which is the principle of growth of principles.
68. I am tempted here to say "a visual perception" since that is often the way it is rendered in Peirce, but that is for the purposes of example, and obviously any sensation can be the basis of a perceptual, semic chain—one of the five senses or any detection device used at the boundary of a system.

69. Peirce does not use this expression, but the idea of "infinite regression is based on his contention that "In consequence of every sign determining an Interpretant, which is itself a sign, we have sign overlaying sign" (2.94). See also Eco's arguments in *A Theory of Semiotics* (1979:188) where he argues for the principle of infinite regression.
70. I am tempted here to say "a visual perception" since that is often the way it is rendered in Peirce, but that is for the purpose of example, and obviously any sensation can be the basis of a perceptual, semic chain. Any one of the five senses, in any combination, or any detection device may be used at the boundary of a system.
71. What Peirce actually says is, "'Significs' sounds to me narrower than Semeiotic, since signification is one of the two chief functions of signs.... So significs appears to be limited to the study of the relations of Signs to their Interpretants; and I presume you do so limit it. On the other hand Logic is more interested in the Truth of Signs, i.e., in the relation to their Objects. But I am satisfied that in the present state of the subject, there is but one General science of the nature of Signs.... We shall have to try to seduce one of the linguists to our more fundamental study. Max Muller was, in a feeble way, perhaps one of our group" (8.378).
72. Graphically, the way Peirce yokes his Active and Passive forms with the Final and Immediate Interpretants, it would seem that the Final is the Active and the Immediate is the passive. What Peirce actually offers as an Active is a "day dream" and as a Passive is a "novelty", but he stresses here that he is not talking about "feelings" as "qualities", but as "agitations of passion and surprise" (3.315). So I have reversed the Active and Passive forms of the Final and Immediate Interpretants because I would think that the Firstness of the Immediate Interpretant is more "active", that is, "agitating", than the generality of the Final Interpretant. I may be over-impressed by psychological modeling here. But, of course, since Peirce calls them "absolutely distinct", the question may be moot, and the active/passive forms may apply equally to all four.
73. See Table Four for a synoptic version of Peirce's classifications here.

74. Later, Peirce made this the seventh and substituted respective the Hypothetic, the Categorical, and the Relative.
75. Peirce also uses in 8.376 a triangle composed of 49 (seven on a side) smaller triangle to represent possible signs. The upper left is OBJECT, the upper right is INTERPRETANT, and the bottom apex is SIGN, marked respectively 3-3-3, 1-1-1, and 2-2-2. He then comments that: "1 signifies the Possible Modality, that of an Idea. 2 signifies the Actual Modality, that of Occurrence. 3 signifies the Necessary Modality, that of Habit...."
Thus,

FIRSTNESS	SECONDNESS	THIRDNESS
Possible	Actual	Necessary
Modality	Modality	Modality
Idea	Occurrence	Habit

Bibliography

Buber, Martin
1970 *I and thou* (New York: Scribner's).
Buchler, Justus
1980 *Charles Peirce's empiricism* (New York: Farrar, Straus, and Giroux).
Bunn, James H.
1981 *The dimensionality of signs, tools, and models* (Bloomington: Indiana University Press).
Cassirer, Ernst
1965 *Language and myth* (New York: Harper and Brothers). Trans. by S. K. Langer.
1968 *Philosophy of symbolic forms*. 3 Vols. Trans. by R Manhiem. (New Haven: Yale University Press).
Culler, Jonathan
1976 *Ferdinand de Saussure* (New York: Penguin Books).
1981 *The pursuit of signs: Semiotics, literature, deconstruction* (Ithaca, NY: Cornell University Press).
Deely, John
1982 *Introducing semiotic: Its history and doctrine* (Bloomington: Indiana University Press).
Deledalle, Gerard
1990 *Charles S. Peirce: An intellectual biography* (Phildelphia: John Benjamins Publishing).
Eco, Umberto
1976 *A theory of semiotics* (Bloomington: Indiana University Press).
1979 *The role of the reader* (Bloomington: Indiana University Press).
1984 *Semiotics and the philosophy of language* (Bloomington: Indiana University Press).
Esposito, Joseph H.
1980 *Evolutionary metaphysics: the Development of Peirce's theory of categories* (Athens: Ohio University Press).
Fann, K. T.
1970 *Peirce's theory of abduction* (The Hague: Martinus Nijhoff).
Fisch, Max H.
1986 *Peirce, semeiotic, and pragmatism* Ed. by K. Ketner and C. Kloesel. (Bloomington: Indiana University Press).

Foucault, Michel
1972 *The archaeology of knowledge* (New York: Random House).
1973 *The order of things: An archeology of human sciences* (New York: Random House).
1980 *The history of sexuality* (New York: Random House).
Freud, Sigmund
1965 *The interpretation of dreams* (New York: Avon Books). Trans. by J. Strachey.
Fuller, Buckminster
1975 *Synergetics: Exploration in the geometry of thinking.* Two Volumes. (New York: MacMillan).
Gardner, Martin
1979 *The ambidextrous universe: Mirror asymmetry and time reversed motions* (New York: Scribner's).
1985 *Frames of mind: the Theory of multiple intelligences* (New York: Basic Books).
Guillen, Michael
1983 *Bridges to infinity: the Human side of mathematics* (Los Angles: Jeremy P. Tarcher's Inc).
Guirard, Peirre
1975 *Semiology* (Boston: Routledge and Keagan Paul). Trans. by G. Gross.
Hardwick, Charles S.
1977 *Semiotics and significs: the Correspondence between Charles S. Peirce and Victoria Lady Welby* (Bloomington: Indiana University Press).
Herbert, Nick.
1985 *Quantum reality: Beyond the new physics* (New York: Anchor Doubleday).
Hookway, Christopher
1985 *Peirce* (Boston: Routledge and Keagan, Paul).
Innis, Robert E. (Ed.)
1985 *Semiotics: an Introductory anthology* (Bloomington: Indiana University Press).
Jakobson, Roman.
1960 "Closing statement: linguistics and poetics" in *Style in language* (Boston, M.I.T. Press). Edited by T. Sebeok.
1980 *Brain and langauge: Hemispheres and linguistic structures in mutual light* (Columbus, OH: Slavica Publishers).

Jung, C. G.
1973 *Synchronicity* (New York: Bollingen Press).
Ketner, Kenneth L.
1986 "Peirce's 'most lucid and interesting paper': an introduction to cenopy-thagoreanism" in *International Philosophical Quarterly* 36(4),375-92.
Kline, Morris
1985 *Mathematics and the search for knowledge* (New York: Oxford University Press).
Kristeva, Julia
1974 "The system and the speaking subject" in *The tell-tale sign* (Lisse, Netherlands: Peter De Ridder). Ed. by T. Sebeok.
1984 *Revolution in poetic language* (New York: Columbia University Press). Trans. by M. Waller.
Lacan, Jacques
1968 *Speech and language in psychoanalysis* (Baltimore: John Hopkins University Press). Trans. by A. Wilden.
1981 *Four fundamental concepts of psycho-Analysis* (New York: Norton). Trans. by A. Sheridan.
Lieb, Irwin C.
1953 *Charles S. Peirce's letters to Lady Welby* (New Haven: Whitlock).
Lotman, Juri *et al.*
1974 "Thesis on the semiotic study of cultures" in *The tell-tale sign* (Lisse, Netherlands: Peter de Ridder). Ed. by T. A. Sebeok.
MacCannell, Dean and Juliet F.
1982 *The time and the sign: a Semiotic perspective of culture* (Bloomington: Indiana University Press).
Morris, Charles
1956 *Varieties of human value* (Chicago: University of Chicago Press).
1964 *Signification and significance* (Cambridge: MIT Press).
1971 *Writings on the general theory of signs* (The Hague: Mouton).
Ogden, C. K. and Richards, I. A.
1923 *The meaning of meaning* (New York: Harcourt Brace Janovich).

Peirce, Charles S.
1931-66 *Collected papers.* 8 Vols. (Cambridge: Harvard University Press).
Prigogine, Ilya
1984 *Order out of chaos: Man's new dialogue with Nature* (New York: Bantam).
Ricoeur, Paul
1967 *The symbolism of evil* (Boston: Beacon Press). Trans. by E. Buchanan.
Robins, Richard S.
1967 *Annotated catalogue of the papers of Charles S. Peirce* (Worcester, Mass: University of Massachusetts Press).
Rosenshon, William L.
1974 *Charles S. Peirce: From the doctrine of categories to phaneroscopy* (Amsterdam: B. R. Gruner).
Rucker, Rudy
1982 *Infinity and the mind: the Science and philosophy of the infinite* (Boston: Birkhauser).
1987 *Mind tools: the Five levels of mathematical reality* (Boston: Houghton Mifflin).
Sanders, Gary
1970 "Peirce's sixty-six signs?" in *Transactions of the Charles S. Peirce Society* VI(1)3-16.
Saussure, Ferdinand de
1959 *General course in linguistics* (New York: Philosophical Library).
Sebeok, Thomas A.
1975 *The tell-tale sign: a Survey of semiotics* (Lisse, Netherlands: Peter De Ridder).
1976 *Contributions to the doctrine of signs* (Bloomington: Indiana University Press).
1979 "Iconicity" in *The signs and its masters* (Austin: University of Texas Press).
1981 *The play of musement* (Bloomington: Indiana University Press).
Schiller, Friedrich
1954 *On the aesthetic education of man in a series of essays* (London: Routledge and Keagan, Paul). Trans. by R. Snell.
Smith, Anthony
1984 *The mind* (New York: Viking Press).

Smith, David E.
1925 *History of mathematics* 2 Vols. (New York: Ginn and Company).
Spinks, C. W.
1981 "Peirce, pragmatics, and pyramids" in *Ars Semeiotica* IV:2.
1983 "Peirce's demon abduction: or how to charm the truth out of a quark" in *The American Journal of Semiotics* 2:1-2.
1991 *Semiosis, marginal signs and trickster: a Dagger of the mind* (London: Macmillan).
Weiss, Paul. and Burkes, A. W.
1945 "Peirce's sixty six signs" in *The Journal of Philosophy* XLIII(1945)383-88.
Wilden, Anthony
1980 *System and structure: Essays in communication and exchange* (New York: Tavistock Publications).
Wittgenstein, Ludwig
1958 *Philosophical investigations* (New York: Macmillan).
1965 *The blue and the brown books* (New York: Harper and Row).
1974 *Tractatus logico-philosophicus* (London: Routledge and Keagan, Paul).
Zellweger, Shea.
1982 "Sign-creation and man-sign engi-neering" in *Semiotica* 38(1/2),17-54.

Index of Names

Aristotle 17, 16, 87, 127, 172
Blake, William 17, 52, 92, 133, 167
Buber, Martin 50, 51
Burks, Arthur vi, 107
Deledalle, Girard 96, 104, 133-36, 138, 141, 147, 150, 153
Descartes, Rene 71
Eco, Umberto 22, 83, 133, 159
Einstein, Albert 49
Esposito, Joseph vi, 18, 19, 23, 39, 48-51, 179
Fisch, Max 97, 98
Freud, Sigmund 49
Fuller, Buckminster 13, 15, 109, 149, 192
Gardner, Martin 47
Hardwick, Charles v, 136, 156, 178, 197
Hartshorne, Charles vi, 103, 104, 109, 149, 192
Huxley, Thomas 2
Jakobson, Roman 50
James, William 28, 190-92, 197, 199, 200, 203
Jung, Carl 208
Kant, Emmanuel 18, 19, 23-26, 98
Ketner, Kenneth 9-13, 14, 15
Kristeva, Julia 22
Lacan, Jacques 25
Lotman, Juri 46
Morris, Charles 167
Ogden, C. K. xv, 9, 10, 13, 167, 171
Peirce, C. S. v, vi, vii, xii, xiii, 1-4, 5, 6, 7-13, 13, 14, 15, 16, 17, 18-22, 23-32, 33, 34-39, 39-57, 57-60, 60-76, 76-79, 81-95, 96-99, 99-103, 103-14, 116-18, 118-36, 137, 138, 139, 140, 140-46, 147-53, 153-55, 155-62, 163, 165, 167, 167-73, 173-77, 178-87, 189, 190, 191, 193, 194-96, 197-05, 204, 205, 207-13, 215, 216, 218-21, 223, 225-28
Plato 23, 25
Prigogine, Iyla v, 49
Richards, I. A. xv, 9, 10, 11, 13, 15, 167, 171
Sanders, Gary v, 3, 103, 107, 110
Saussure, Ferdinand de 103, 132, 145
Schiller 18, 19, 50
Spinks, C. W. vii, 6, 147, 149
Tursman, Richard vi
Weaver, Richard vi
Weiss, Paul vi, 103, 104, 107
Welby, Victoria Lady v, xii, 10, 13, 15, 16, 28, 35, 37, 39, 53, 56, 58, 60, 74, 79, 84, 95, 96, 101, 105-09, 112-14, 116, 117, 126, 129, 130, 133-35, 136, 148, 158, 169, 178, 186, 190, 191, 195-98, 204
Whitehead, Alfred 49
Wilden, Anthony 21, 24, 176
Wittgenstein, Ludwig 228
Zeno 127

Index of Subjects

a peculiar kind 29, 31, 57, 64, 66, 67, 77, 78, 83, 118, 119, 124, 128, 175, 204, 215, 221
abduction 55, 86, 125, 126, 155, 157, 164, 180, 227
abstraction 20-22, 24-26, 35, 36, 41, 44, 48, 51, 54, 78, 83, 100, 102, 122, 124, 127, 128, 143, 155, 169, 170, 175, 187, 190, 221
agapasm 204
ambivalence 22, 79, 225
anancasm 40, 204
approximation 21, 30, 38, 45, 50, 56, 68, 82, 85, 108, 124-27, 173, 188, 192, 219
arbitrariness 45, 69
argument ix, x, xiii, 2, 4, 5, 19, 27, 30, 39, 41, 44, 57, 68, 71, 72, 74, 75, 76, 79-81, 85-91, 95, 102, 105, 106, 109, 111, 112, 113, 119, 121, 122, 124-27, 129, 130, 139, 140, 149, 151, 156, 157, 162-64, 176-78, 184, 190, 194, 197, 204, 208-210, 213, 225, 226-28
argumentative 72, 77, 87, 89, 176, 197, 199, 208
assertoric 14, 77, 78, 81, 84, 86, 89, 108, 139, 143, 178, 185-86, 189, 192, 196, 205
associative 184
belief v, 41, 48, 51, 62, 81, 82, 85, 86, 108, 185, 205
boundaries ix, xi, 5, 15, 17, 45, 46, 63, 103, 105, 108, 135, 137, 138, 145, 154, 158-60, 198
brute fact 65, 98
brute resistance 35, 68, 219
Categories
categories ix, 3, 5, 9, 15, 17-23, 26, 30-31, 36-37, 39-43, 46-50, 54, 56, 62, 64, 91-94, 97, 98, 103-05, 107, 109, 111-12, 125-26, 131, 134, 137, 161, 169, 170, 175, 178, 198, 204
collateral 68, 191, 193, 194
first ix, x, 54, 98, 134, 143, 165, 179, 182, 196, 199, 205
firstness ix, xi, 8, 14, 21, 22-24, 26-31, 37, 39-41, 43-44, 46, 48-51, 54-56, 58, 61-63, 67, 72, 75-77, 78, 83, 85, 93, 94, 98, 103, 104, 107, 111, 114, 118, 123, 126, 135-36, 138, 143, 145, 147, 149, 152-55, 159, 163, 165, 174-76, 178, 181, 189, 194-95, 197-200, 203-204, 207, 208, 215, 223
Prescission ix, x, 19-23, 23-26, 29, 35-36, 38, 40, 41, 49-51, 56, 61, 72-73, 75, 78, 83, 92, 93, 108, 118, 126, 128, 153-57, 161, 169, 174, 175, 180, 198, 201, 203
secondness ix, 8, 14, 23,

25, 26, 30-34, 35-46, 49, 51, 54, 56-58, 60, 63-68, 71-73, 77-78, 80, 83, 84, 85, 92-94, 98, 103, 104, 111, 114, 118, 120-123, 126, 129, 131, 134-36, 138, 139, 142, 143, 145, 149, 152, 153, 155, 159, 163, 165, 175, 176, 178, 181, 185, 1989 192, 194-96, 197-98, 199-201, 203-04, 208, 219, 221
third ix, 7, 8, 14, 21, 23, 26, 31-32, 34-35, 37-42, 44, 46, 48-49, 51, 54, 58, 59, 68, 69, 71-72, 74-76, 78, 81, 83, 90, 92, 94, 98, 100, 103, 104, 107, 108, 111, 114, 118-23, 126, 120-31, 134-35, 138, 139, 146-47, 140, 150-53, 155, 159, 162, 163, 165, 167, 169, 174-75, 177-78, 185, 189, 195, 197-200, 203, 204, 208, 215, 221-23, 225, 227
thirdness ix, 7, 8, 14, 21, 23, 26, 33, 32, 34, 35, 37-42, 44, 46, 48, 49, 51, 54, 58, 59, 68, 69, 71, 72, 74-76, 78, 81, 83, 90, 93, 94, 98, 100, 103, 104, 107-08, 111, 114, 118-23, 126, 129-31, 134-37, 138 139, 146, 147, 149, 152-53, 155, 159, 162-63, 165, 167, 169, 174-75, 178-78, 185, 189, 195, 197-200, 203-04, 208, 215, 221, 223, 225, 227
change 47, 75, 167, 176, 182, 183, 187, 228
chaos 23, 24-26, 29, 47, 49, 159
community of inquirers vii, 48, 49, 124, 173, 204
complexus 84, 91, 178, 182
connective 51, 179, 218
consciousness 29, 30, 32, 33, 35, 50, 55-57, 63, 65, 70-71, 82, 88, 91, 103, 120-22, 173, 183
conscission x, 174, 175, 191, 198
conscissive 175, 203
continuum 3-5, 13, 24, 28, 55-56, 58, 61, 63, 92, 207
critical proximity 2, 25, 127
cultural other 167, 171-72, 180
culture and non-culture 46
deduction 55, 62, 80, 86, 125-26, 157, 164
designative 115, 117, 207
dissipative structures 49
dissociation 169, 182
distinction 9, 19-21, 36, 41, 67, 70, 72, 85-87, 89, 127, 168-70, 177, 186-88, 190-93, 195, 197
doubt 25, 43, 76, 86, 117, 155, 169, 181
dream 25, 73, 147
ensignment 118, 175, 188
entropy 25, 48-50, 132
episteme 49, 103
evolution ix, 46, 47, 49, 145, 190

evolutionary love 8, 40, 46, 47, 204
evolutionist v
existential graphs 9, 13, 47, 76, 77, 97, 99, 100, 103, 170, 174, 187
fallibility 171
four color map problem 181
game 79, 174, 203-205
geometry 13, 36, 97, 98, 100
growth 9, 15, 42, 44, 46, 47, 50, 72-73, 91, 106, 110, 118, 143, 145, 160, 175, 184, 199, 203-05
here and now 34, 45, 181, 187
hic et nunc 32, 34-35, 58, 61, 64-65
hypothesis 20, 55, 82, 126
implicature 24
induction 55, 78, 80, 86, 102, 125, 126, 157, 164, 212, 216
infinity vi, 15, 92, 148, 199
interpretance x, xi, 167, 170, 172-175, 177, 179-82, 184-85, 187, 190, 194-200, 203-05
interpretant-forming 133, 147, 162, 174, 177, 191, 194
interpreter x, 20, 70, 71, 75, 80, 87, 99, 120, 121, 133, 146, 168-69, 170-73, 176, 177, 183, 184, 186, 187, 190, 191, 192
janus 58, 79
kalos 201, 203
language 59, 117, 171, 172
langue 58, 119, 132, 145
leading principles 177
logic of discovery 5, 6, 9, 18, 25-28, 30, 31, 36, 40, 47, 50, 55, 63, 72, 75, 78, 82, 95, 98, 122, 129, 167, 180, 201, 204
logical positivists 100, 167, 228
map 22, 58, 96, 102, 103, 181, 184
metaphor 47, 62, 102, 135, 170, 171, 173
methodeutic 83, 86
mirror 5, 25, 94, 155, 159, 164, 204
monadic 24, 27, 31, 39, 76, 93
musement 22, 203
mythos 67, 218
negentropy 49-51, 132
nominalism 17, 37, 39, 45, 46, 144, 199, 204
normative sciences 200, 203
paradox 36, 145, 186
parole 58, 119, 132, 145
path of inquiry v, 16
percept 20-22, 29, 30, 34, 57, 58, 82, 87, 180, 187-90, 195, 197
perceptual judgment 22, 23, 73, 188-90, 195
perceptual judgments 70, 180
periodicity 63
play 21, 22, 173-74, 178, 203-04
pragmaticism 17, 19, 25, 26, 28, 37, 46, 48, 70, 75, 91,

97-99, 176, 179, 184, 186, 200, 204, 218
pragmatics 130
pre-logical 189, 200
predicates 17, 31, 76, 77, 176
principle of growth of principles 44, 50, 182, 199, 204, 205
problem of punctuation 176, 192
proposition ix, x, xiii, 24-27, 36, 38, 44, 67, 72, 74, 75, 77-83, 85, 86-89, 102, 122-24, 127, 130, 139, 151, 157, 163, 164, 176, 180, 184-85, 189, 193, 195, 204, 210, 215, 219, 223-25
purpose 3, 35, 44, 71, 75, 76, 173, 176, 178, 182, 187, 192, 194, 196, 204, 205
Pyramid
  Culture Plane 130, 147, 148
  Definition Plane 130, 147
  Denotation Plane 131, 147
  Pyramid xii, 6, 12, 13, 137, 148
  Sign Occurrence Plane 6, 10
quale 54-56
qualia 55, 56, 73, 75, 117, 122, 143, 203, 208
real 8, 18, 19, 21, 23, 25, 26, 32-33, 37-39, 41, 44-46, 51, 55, 56, 64, 66, 67, 70, 72, 74, 78-80, 82-84, 87, 89-91, 102, 121, 124, 140, 147, 151, 163, 179, 184, 185, 186, 191, 195, 196, 212
reality 14, 32, 33, 38, 40, 41, 43, 45, 66, 70, 72, 97, 103, 120, 159, 186, 204, 218, 227
reductionism 132, 199
replicate 136
representation 9, 10, 13, 38, 52-54, 65, 69, 72, 76, 83-86, 88, 94, 102, 105, 106, 145, 167-68, 170, 173, 185-86, 201, 210, 218
scholastic realism 18, 45, 144, 203, 218
scholastic realist 102, 199, 204
second trichotomy ix, xi, 60, 195, 196, 213
semantic binary opposition 22, 149, 172, 192
semantics 130
semeiotic v, xi, 5-9, 15, 16, 17, 18, 21, 25, 26, 28, 32, 36, 39, 44-48, 51, 53, 54, 74, 75, 82, 83, 85, 88, 91, 93, 97, 99, 100, 102-04, 108, 113, 114, 121, 123, 129, 144, 145, 154, 158, 159, 167, 171, 173, 175, 177, 178, 182, 184, 186, 190, 195, 198, 199, 203, 204, 205, 228
semiosis 6, 7, 12, 15, 21, 39, 41, 65, 70, 79, 85, 87, 88, 91, 92, 94, 100, 122, 123, 126-27, 130, 145, 149, 152, 155, 159, 169-71, 175, 177, 183, 189, 194,

199, 218
semiotic quadrant v, vi, xii, 5, 6, 11, 12, 15, 16, 19, 22, 24, 26, 44, 45, 49-51, 74-82, 84-89, 91, 97, 100, 103, 123, 125, 129, 138, 153, 159-60, 169, 176-77, 179, 180, 184, 189, 192, 200-04, 223
shadow 23, 144, 202
Sign
  symbol ix, x, xiii, 8, 45, 59, 60, 61, 64, 66, 68-74, 80, 81, 89, 101, 105, 111-13, 115, 119, 121-22, 124, 128, 130, 139, 151, 154, 156, 162, 164, 165, 167, 175, 196, 204, 203, 205, 209, 210, 212-13, 215, 219-21, 223, 225, 227
significate effects 179, 181
significs 113, 158, 191
Signs ix, x, 54, 96, 134, 143, 165, 179, 182, 196, 199, 205
  Actual Interpretant 205, 208, 211, 212, 216, 221, 223, 226
  Delome 75, 116, 127, 178, 189, 197
  Dicisign 79-86, 123, 129, 184-86, 195, 225
  Dynamic Interpretant xii, 16, 101, 193, 196, 199, 209, 213, 219
  Dynamic Object 73, 85, 86, 88, 131, 147, 188, 195, 197, 198, 199
  Dynamical Interpretant 115, 115, 127, 186, 188-90, 192-95, 196-200
Dynamical Object 16, 115, 127, 188, 187, 191-93, 196, 198
Emotional Interpretant x, 179-81, 183, 205, 207
Energetic Interpretant x, 178, 180, 181, 183, 205, 209, 213
final interpretant 48, 88, 103, 108, 131, 147, 187, 191, 192, 194, 199, 227
God-Sign 8, 45
Habitual Interpretant 47, 60, 73, 109, 135, 136, 142, 143, 151, 178, 199, 205, 207, 209
icon ix, x, xiii, 9, 11, 57, 60-67, 69, 71-73, 80, 83, 95, 99, 115, 117, 119-21, 123, 135, 145, 151, 159, 162, 164, 175, 181, 189, 195, 196, 204, 210, 213, 215, 221
Immediate Interpretant 16, 101, 115, 135, 178, 186-89, 191, 193, 196-98, 200, 209, 211
Immediate Object 16, 72, 73, 85, 88, 115, 123, 131, 135, 147, 185-89, 191, 193, 195-97, 223
index ix, x, xi, xiii, 14, 57, 60, 61, 64-68, 71, 72, 80, 81, 83, 84, 86, 95, 115, 119, 121-23, 139, 143, 144, 151, 162-64, 175, 185, 195, 196, 204, 210,

215, 216, 218-20
Intended Interpretant 80, 86, 89, 135, 178, 179, 187
interpretant x, xi, xii, 6-8, 10, 10, 12, 14, 16, 21, 24, 46, 48, 52, 53, 60, 65, 67, 69-71, 73, 74, 76, 77, 79, 82-84, 86-91, 93, 95, 97, 100-01, 105, 108, 111, 115, 116, 123-31, 133-36, 142-44, 146-49, 150-53, 155, 158, 159, 162, 164, 167, 168-70, 172-77, 177-94, 194-96, 197-200, 204-05, 207-09, 211-13, 216, 219, 221, 223, 226, 227
legisign ix, x, xiii, 54, 58-60, 63, 95, 105-07, 109, 111, 113, 119, 121, 124, 128-31, 136, 139, 140, 145, 151, 154, 155, 157-63, 165, 198, 204, 209-13, 220, 221, 223
Logical Interpretant xi, 76, 86-88, 127, 177, 180-84, 186, 195
object 6-8, 10, 15, 16, 18, 23-26, 29, 31, 33, 38, 47, 52, 53, 56, 59-67, 71-73, 75-77, 79, 81-84, 85, 86, 88, 89, 92-93, 95-96, 98, 100-01, 105, 109, 111, 114, 115-25, 127-31, 133, 135, 139, 140, 140-43, 144-49, 150-53, 157-59, 162-63, 168, 173-78, 180, 185-96, 197-199, 201, 205, 207, 221, 223, 225, 227
Pheme 75, 80, 82, 84, 116, 127, 176, 184, 186-89, 195, 197
Possible Interpretant vi, 3, 4, 10, 16, 21, 21, 31, 44, 55, 77, 89, 96, 105-09, 113, 115, 116, 125-27, 129, 133, 134-35, 143, 144, 146, 148, 150-51, 156, 159, 160, 162, 173, 174, 177-78, 190, 195, 196, 199, 205-06, 208-09, 211, 213-14, 216, 219, 221-23, 226
Primary Object 85, 86, 185
qualisign ix, x, xiii, 54, 56-59, 75-77, 79, 85, 95, 105, 108, 109, 111-13, 117-18, 120, 123, 129, 138, 140, 149, 151, 154-58, 162-63, 204-08, 213, 215
replica 54, 58-60, 66, 72, 119, 122, 124, 128, 129, 134, 136, 144, 145, 171, 175, 188, 196, 211-13, 219
Representamen 10, 45, 52, 53, 111, 120, 121, 130, 134, 142, 144, 146, 147, 150, 151, 153, 162, 163, 167, 168, 174, 177, 205
rheme ix, x, xiii, 27, 57, 68, 74-76, 76-86, 95, 117-19, 123, 129, 130, 144, 151, 157, 162-64, 176, 184, 186, 204, 221-23, 225
Secondary Object 84, 185-86

Seme 76-80, 82, 84, 116, 127, 176, 184-85, 187-89, 190, 195, 197, 223, 225
sop to cerberus 46, 53, 171
speaking subject 37, 47, 86, 120, 171
stuff xii, 3, 4, 21, 23-24, 53, 55, 56, 134, 188, 192
substitutes 69, 120, 185
sudden insight 145
surveyor x, 12, 36, 95-98, 99, 100, 102
symbolic order 13, 63-64, 67, 72, 81, 97, 106, 119, 129, 139, 176, 178, 209, 210, 218, 221
synergy 14
telos 48
third degree 163, 207
third trichotomy ix, xi, 74, 75, 96, 142, 165, 184, 186, 194, 199, 221
transcendentalism 47, 50
translation 69, 70, 170-172
tri-square x, xii, xiii, 95, 96, 97, 101, 106, 109-11, 117, 123, 130-31, 133, 134, 135, 137-41, 145-46, 147-51, 151-53, 155, 157-59, 161-63, 165, 177, 181, 194, 199, 200, 204, 205, 208, 211, 215
triadic
tri-relative influence 6, 7, 9, 11, 13, 18, 52, 53, 72, 83, 87, 88, 94-96, 104, 107, 117, 122, 130, 133, 144, 148, 150, 151-55, 155, 162, 167, 170, 174-76, 183
triadic 2, 6-10, 12-16, 38-40, 42-44, 53, 73, 84, 94, 95, 104, 108, 110, 111, 116, 127, 133, 140, 146, 147, 151-53, 155, 160, 168, 170, 192, 194
triadomania vi, ix, 4, 7, 15, 16
triadomany ix, x, 7, 17, 39, 52, 92, 133, 167, 204
trichotomous 204
trichotomy x, 4, 7-8, 16-17, 52, 54, 91, 94, 103, 106-07, 110, 112, 113, 121, 131, 133-34, 148-49, 152, 155, 161, 194, 199
trichotomy ix, x, xi, 1, 3, 4, 16, 19, 54, 60, 74, 75, 77, 94-96, 101, 111, 112, 121, 125, 126, 130, 134, 136, 141-43, 146, 148, 152, 163-65, 169, 176-79, 182, 184, 186-87, 194-199, 204, 205, 207, 213, 221
unknowable 23, 24
verification principle 67
vividness 28, 30, 55-56, 61, 78, 120, 123, 176, 203
zero degree 155, 157-58, 225, 227